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JULY, 1889.

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ON THE VALUE OF THE HISTORICAL STUDY OF MEDICINE.*

BY D. C. LLOYD-OWEN, F.R.C.S.I.,
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OF THE BRITISH MEDICAL ASSOCIATION.

Gentlemen,—

When I review the inaugural addresses of my predecessors in this most honourable chair, I am impressed by the manner in which each department of our professional knowledge has been by them illustrated and commented upon, and questions, moral, social, and political, affecting us as a body have been exemplified and resolved. The difficulty I felt, when called upon to address you, in finding any untrodden ground and in choosing a topic which had not been previously more ably handled than was within my capability will, I am sure, be manifest to everyone present. Conscious of my incompetence to deal with the burning questions which just now occupy the professional mind, my first impulse was, as may be indulgently conceded, to treat of some subject connected with the special work to which my life is devoted. I was speedily convinced, however, that such a theme was for many reasons unsuited to an occasion like the present. And in casting about for a fitting subject, my mind, already, and perhaps always, too much occupied with the contemplation of things of the past, came to dwell upon the fact that, owing to the vast and rapid strides made in accumulating information and in opening up new areas of knowledge, we are too apt in the present day to neglect the lessons to be learnt from the history of our art and from the works and lives of the illustrious ancients. If we think at all of these matters, it is probably only with the feeling which animates the mass of mankind in visiting a museum of antiquities, for the most part a formal, now and then perchance an indulgent, curiosity. We are not prepared to allow the work and records of the ancients more than a very meagre contributory value in the building up of the fabric of our modern knowledge. Some of us even, with a fine emulation of Mrs. Hardcastle's contempt for "such old-fashioned trumpery," may consider such subjects as unworthy the occupation of our vacant moments, much less our serious hours. Others there are, happily, who feel, with the reverent and loving students of antiquity, that in a comparative knowledge of the past lies the surest foundation for an adequate appreciation of the present; that in medicine, as in other branches of learning, we are less likely to become the victims of blind adherence to the authorities of any particular epoch if we are fairly acquainted with the products of the thought and labours of all. And more than this, that a really comprehensive education in our art ought to rest upon the groundwork of a true knowledge of its history, and be pillared by the wisdom of the ancients. That it is possible for a student to obtain a certain mechanical aptitude, a question-and-answer facility, in dealing with his work without the knowledge that Hippocrates ever existed or Sydenham wrote, speaks for itself; but the difference between his mental grasp of the intricate problems presented to him in his work and that of another more broadly trained, is as great as the varying solutions of the problems of our national development proffered by a learner of "Magnall's Questions" and a student of Hume. This assertion, however, conveys a distinct challenge to the system of medical education at present in fashion among us, and proclaims it defective in an important particular. It is concerning this *lacuna* in our training, and on some of the advantages to students and practitioners which would accrue from its filling up, that I venture to address you to-day, and to take as the subject of my remarks, "A Plea for the more extended Study of the History of Medicine."

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* The Inaugural Address delivered at the Annual Meeting, held June 20th, 1889.

A recent author* says: "To the initiated medicine is something more than a profession; it is a world within itself. It has its history, its philosophy, its literature, of which the world knows nothing." It seems scarcely necessary to insist upon the truth of this utterance at a time when the study of history—that "mirror of human life in all its bearings"—has received such impetus; and, thanks to the devotion of some of our greatest thinkers, has been the means of making manifest that order in human affairs through the knowledge of which alone real and enduring progress can supervene. But the fact that this most valuable aid in our education has not as yet received due consideration from the powers that be over us, urges me to dwell upon the omission.

The study of our origin and progress as an element in the vast current of civilisation is surely a subject deserving our fullest cognizance. Such a pursuit cannot but be profitable as well as pleasant. "To turn at times from the battle of active life to the study of the past," and to the origin and progress of medicine as a particular portion of that study, assists in maintaining definitely in our minds the idea of continuity with the past, which is one of our most precious possessions. For no one period of time, however rich in observers, determines finally questions of research or discovery. New minds contribute new light, and amplify and confirm, or modify or negative, the conclusions of their predecessors. Nature never displays herself in a definitive revelation once for all. Hence the deductions from the experiences of generations are the only trustworthy bases on which to formulate rules for our guidance. To achieve a steady and restful unity with the past, we must nourish and strengthen in our minds the assurance of the certainty of our continuity. Heyne* says, "To mould the intellect and the taste by the help of the ancients, and to draw thence for our profit valuable information, and to use with understanding of its application this information to the advantage of the present age; these are the motives and the never-failing attractions which excite us to the study of antiquity."

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* Watson—"Medical Profession in Ancient Times."

It has been said that medical men† are expected to "have a perception of life as it exists individually and collectively; in the former to bear in mind the general system of creation, in the latter to demonstrate the connection and signification of the individual phenomena; to discern the one by the aid of the other, and thus to penetrate into the sanctuary of cosmical and microcosmical science."

It must be answered, I fear, if question be put as to the fitness of our average training for the attainment of such desirable ends, that, so far as its historical features are concerned, the student has but slender opportunity of acquiring even the rudiments of such knowledge. Even the accounts of individual diseases bequeathed to us by the fathers of medicine, replete as they are with interest and instruction, are, if offered at all in our curriculum, offered only in meagre driblets; whilst the history of general visitations of disease receives still less attention. We need only refer for an example of what may be taught, not only regarding the immediate practical value of research into the causes of general visitations of disease, but also its importance as affording acquaintance with the phenomena of collective organic life, to that most able and erudite work, "Hecker's Epidemics of the Middle Ages." The insight gained from that admirable work, both into the nature of the diseases themselves and into the interdependence existing between those diseases and the moral and social conditions of the peoples attacked, is exceedingly valuable. And not less valuable than the knowledge of the influences, general and reciprocal, of natural causes on the collective human organism must be a general view of the leading discoveries and revolutions of doctrine which have marked each epoch in the progress of our art. The studies of individual and general diseases with their manifold and intricate relationships, biological and sociological, ought to be methodically arranged for purposes of instruction.

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* Quoted by Littré—"*Introduction aux Œuvres d'Hippocrate.*"

† Hecker—"Address to Physicians."

The synthesis we would aim at should be not a mere annotated record, but a philosophical exposition of the various factors in the progress of our art and an intelligible correlation of them, as belonging to a great totality. The result would be that we should be* "better able to understand our own position; to know how far we have advanced; to whom we owe our progress; the labours still before us; and the places we ourselves are likely to occupy in the estimation of those who are to follow us."

"The study of ancient writers," says Littré† "depends for its interest and advantage on the reconciliation which the intellect brings about between modern and ancient science. This reconciliation can only take place under certain conditions which are to be found either in the mental attitude of the reader himself or in the manner in which the book offers itself to his judgment; in the reader when his studies have afforded him access to the doctrines of antiquity, and in the work itself when those doctrines have received such an elaboration as places them in harmony with modern thought."

In the accomplishment of this reconciliation, so clearly described by Littré, an appreciation of the evidences of the continuity in our art and in the aims of its teachers is an essential requirement. To follow the struggles of our early leaders in their endeavours to find solutions of the problems pressing upon them; to mark the continuity of effort, of purpose, of feeling, by which they were animated and sustained; to find amongst the Egyptians, the Assyrians, the Druids, the Greeks, the Romans, the Arabians, during the middle ages, and throughout the comparatively brief period which has elapsed since the experimental method has prevailed, the same strivings after knowledge, the same honest devotion to the service of humanity, are surely sustaining influences of value in our preparation for the conflict we are constrained to wage with the powerful forces opposed to us.

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* Watson, *op. cit.*

† "*Introd. aux Œuvres d'Hippocrate.*"

The progress of medicine was for many ages slow, with many haltings and turnings backward; and the study of these fluctuations in our advance, besides teaching us in many instances which paths to avoid and which to follow, is of use as an encouragement to carry forward the great work. A right appreciation of the failures and disappointments of our predecessors would, I am led to think, operate as a corrective to the restless and unwholsome desire for novelty, which is one of the weaknesses of the present age, and is the outcome of a too analytical mental attitude and a deficient historical training. Such an appreciation would certainly have the immediate practical advantage of pointing out to us that in many instances the value of so-thought discoveries had been determined long ago; and we should thus be saved the absurdity of reviving some exploded theory or resuscitating some forgotten fallacy.

Not one of the least curious researches which might occupy us, a research even directly profitable, might be devoted to finding out how often in the records of our art some old, worn-out notion, clothed in new language and coloured by the mental characteristics of its reviver, had been presented as new, only to meet its former fate—to be relegated to the land of the forgotten—perhaps to be again brought out and furbished up by some enthusiast whose energy overbalanced his acquirements.

But there are innumerable points more directly profitable than this recorded in the works of the ancients—points which, by their agreement with our modern conclusions, help to increase our admiration and respect for our great masters, and points of divergence which serve to place more strongly in relief our advance and our triumphs. For example: It is known to students of the history of medicine that many points, which were disregarded until quite recent times, in the situations of our hospitals, and which even now are hardly recognised by the mass of educated persons as of essential importance, were adopted by the Asclepiadæ some 500 or so years B.C.* Their temples, or Asclepions, were both schools of instruction and asylums for the sick, and were so situated and managed as to yield the greatest advantages to those who sought their aid. They usually occupied some elevated and healthy locality, surrounded by shady groves, or the neighbourhood of thermal springs or fountains of medicated water. They were sacred from intrusion, and accessible to the invalid only after purification by fasting, ablution, and inunction. Along the walls near the couches of the patients hung tablets, upon which were recorded the history and treatment of the individual cases of disease, from which the Asclepiadæ collected records, and deduced from them a systematic guide for practice.

Another point connected with these early schools, interesting as an instance of the survivance of a custom, is found in the ceremony used by the teachers in conferring the final degree which gave their disciples their warrant to teach and practise. It was called the ceremony of "Binding the Head," or coronation.† The student admitted to study at the Asclepions passed through at least three degrees. The first, called "Illumination," regarded the study of abstract principles—logical, philosophical, and political; the second, called "Inspection," referred to practical studies; the third, called "Coronation," gave the right to practise.

It is curious how much this ceremony of coronation resembles the capping usual on taking a full degree at some of the Scottish Universities. And in the Italian Universities, still, the ceremony resembles in title, if not in form, the ancient one; for the *Laurea*, the laurel wreath, is conferred on taking the doctor's degree.

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* Littré, *op. cit.*

† Watson, *op. cit.*

In these early times the unqualified practitioner was as galling a thorn in the side of the orthodox as he proves to the privileged practitioner of the present day. The injunctions against the itinerant mountebanks and pedlar-priests, as Plato calls them, abundantly shew this. But, after all, it was found that the qualified had, just as really obtains in our times in spite of legal penalties, "no redress and no advantages other than those of a superior education, honesty of purpose, devotion to duty, and the confidence of a discerning public." So this vexed question came to be solved then, as it must be now, not by the safeguard of legal penalties, but by the final decision of educated public opinion.

And now to note one point in particular in which the divergence between ancient and modern opinion stands most distinctly marked. I refer to the different estimate of duty to patients held by the physician of ancient times and that presented for our guidance to-day. With the growth of a higher social ideal has grown an exalted sense of duty, a more unselfish devotion to the service of mankind. Our great leader, Sydenham, taught that the true physician ought always to be ready to serve his patient even at the risk of his own reputation; and this habit of self-sacrifice has become, we are proud to feel, instinctive in our professional life. The standard of professional virtue in vogue among the ancients undoubtedly left much to be desired. But like all *ex parte* charges, the charge against them of consulting their own welfare rather than the well-being of their patients, admits of large qualification. Very frequently the ancient physician was responsible for the non-success of his treatment with his life; and, as history abundantly shews, not rarely suffered death if he failed to cure his patient. In fairness to themselves therefore a certain amount of circumspection in undertaking cases was exhibited. This cruel liability has however turned to our advantage, for it led to especial cultivation of the art of prognosis, a most important branch of our knowledge. For, as may be easily conceived, the determining of a sound prognosis was to them of essential importance.

The apostle of these early ages was, it is needless to say, Hippocrates—the Father of Medicine. Of him Dr. Watson says:* "He was not the inventor of the healing art nor of the modes of teaching it. Examples are often the result of accident, and the best of them, in a practical point of view, rarely the the result of forethought. He who detects the rising spirit of the age, who first gives expression and embodiment, or the power of progress and endurance to the wisdom, feelings, aspirations, customs, or hitherto undivulged opinions of his times is even of more regard than the innovator."

It is impossible within the limits of this brief address for me to deal, even in the most summary way, with the works of the Father of Medicine. I would commend to the reading of those who are not familiar with it the Address of Dr. Warburton Begbie, delivered at Edinburgh in 1875, on the occasion of the meeting of the British Medical Association in that city.

Permit me however one quotation from the famous work of Hippocrates entitled "On Airs, Waters, and Places." I quote from a copy sent to me by the late Dr. Burnell, an Indian surgeon, who died a few years ago, all too soon. Speaking of a disease from which the Scythians suffered, Hippocrates says:—"The inhabitants of the country attribute the cause of their disease to a god and venerate and worship such persons as are the subjects of the disease, everyone dreading that the like might befal himself, but to me," and here the scientific acuteness of the illustrious Greek is evidenced, "but to me it appears that such affections are just as much divine as all others are, and that no disease is either more divine or more human than another, but that all are alike divine, for each has its own nature and no one arises without a natural cause."

Had the luminous idea conveyed in this quotation been kept constantly before the minds of the successors of Hippocrates, how much more rapid would have been the progress of medicine! It would have been raised above the mists of superstition and credulity, and would have shone clear in the light of

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* *Op. cit.*

Nature. It is as if one heard Bacon say, "*Knowledge is power*," or Galileo, "*E pur si muove.*"

The *dictum* of the ancients concerning the preliminary education which students ought to undergo before entering on their courses of special study is very clear and emphatic. In striving in the present day to maintain a high standard of preliminary education for our students, we are only following the lead of the ancients. The earnest contentions in later times for an extension rather than an abridgmênt of the curriculum deserve our warmest support. It would be better for the profession generally, and immensely to the advantage of each individual concerned, if a more extended course—æsthetic, intellectual, and moral—arranged on sound, philosophic principles, were insisted upon by the authorities. The words of Hippocrates on this point are of sterling worth. Writing to his son respecting his education, he says, "Give due attention, my son, to geometry and arithmetic; for such studies will not only render your life illustrious and useful to your fellow-beings, but your mind more acute and perspicacious in arriving at fruitful results in everything pertaining to your art." And what Hippocrates counselled his son to do he himself had done before him; for he was, we know, skilled in logic, astronomy, rhetoric, and the other sciences.* And what is true of the Father of Medicine is true of Galen, who was the *beau ideal* of an accomplished physician, skilled in all the sciences of the day; and also of Celsus, who was regarded by his contemporaries as minutely skilled not only in medicine, but in every elegant and useful science which was known and cultivated at the period in which he lived. The same may be said of Oribasius, Paulus Ægineta, Fabricius de Aquapendente, and others of the earlier and later lights; and emphatically of our own phalanx among the immortals—Linacre, Caius, Harvey, Sydenham, Hunter, and others nearer to us in point of time. The safest practitioner and the soundest teacher of our art and science is he whose training has covered the widest range.

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* Adams—Preface to translation of works of Paulus Ægineta.

Not one of the least interesting subjects which attracts notice when reviewing the early history of our art is the picture it presents of early specialism. Every now and then, as time goes on, some well-meaning person makes a furious onslaught on what he thinks to be the new-born development of specialism. A superficial acquaintance with the history of medicine would have taught him that specialism, with all its uses and abuses, is as old as the practice of medicine itself; certainly as old as any records of medicine handed down to us. Herodotus* tells us that among the Egyptians each physician applied himself to one disease only. All places abounded in physicians, some for the head, others for the eyes, others for the teeth, others for the parts about the belly, and others for internal diseases. And in later times, when the medical school of Alexandria rose to fame, the division of labour was equally minute. It was here that the first great divisions of specialism, the divisions into medicine, surgery, and pharmacy became firmly established and legitimised. Among the Romans specialists were limited in number; and this may be easily understood by a consideration for a moment of the national characteristics as compared with those of their Greek predecessors. There always have been, however, and it appears to me always will be, those among practitioners who, by virtue of special fitness or by the irresistible influences of environment, will be carried into definite and restricted lines of practice, and this, we trust, with some advantage to the community. But it must be pointed out that the limited domain of true specialism is invaded and ravaged by the *feræ* of charlatanism, just as is the case in the wide realm of general practice, and with the natural result that the devastation is greater in the smaller area. It must be the constant care of our teachers that the choice of a special branch of work shall be possible only after ample general training. Specialism in practice must not be synonymous with specialism in education—a confusion generally made by the wiseacres who rail against all specialism.

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* Book ii., chap. vi.

These references to specialism in its various aspects would naturally lead me on to say something concerning the knowledge of the diseases of the eye posessed by the ancients. But in a brief address, such as this must necessarily be, it would be impossible to compare with justice the inchoate conceptions of the ancients with the perfected ophthalmology of the present day. They knew much more of the external diseases of the eye and of operative procedures than would at first glance be believed, and they had an elaborate therapeusis. But the more we study the works of the ancients the more certainly we arrive at the conclusion, that it is in the knowledge of the spirit animating their works, rather than in the immediate practical advantages to be gained, that the chief value of the study lies. With their rudimentary knowledge of anatomy and physiology, their ignorance of pathology, and their lack of instruments of precision, they do not help us much in practical details. It is from the study of their methods that we are the gainers. In the emphasis they laid on the necessity for exact observation and comparison of clinical facts, on a painstaking therapeusis, and especially on the vigorous cultivation of the art of prognosis, it is that their excellence consists.

Tracing downwards the history of Medicine through the centuries it is interesting to note how, like her greater sister Divinity, Medicine has reflected in her growth the influence of the concurrent philosophies. At its beginning our art was probably purely empirical and then, influenced by the various forms of speculative philosophy, it became more and more analytical; until, with the advent of the experimental philosophy, of which Galileo, Bacon and Newton were the first great exponents, it assumed new vigour and became justly entitled to rank as one of the true experimental sciences.

In the appreciation of these facts lies the answer to an indictment which has time after time been brought by the half-learned critic against the pursuit of the study of medicine; namely, that since from the time of Hippocrates down to the sixteenth century of our era but little advance in knowledge in the modern sense was made, therefore the history of that period is worthless. A sufficient answer to this charge is I think conveyed in the plea that Medicine during the period designated was bound hand and foot by the current philosophies, and by speculations theurgic, theosophic and occult; and that the study of medicine in its relation to these influences, besides its practical utility in separating the grain from the husk, is valuable as affording an acquaintance with the evolution of philosophy.

In this light the association of medicine in mediæval times with alchemy, Rosicrucianism, and magic forms not one of the least interesting extensions of the field of study. To the alchemists we owe the discovery of many useful chemical substances, but their credulity and their mingling of the mystical and imaginative with the real, detract greatly from their works as substantial contributions to the progress of medicine. Yet they taught us the vast importance of chemical investigations, and through their discoveries many new chemical remedies were introduced into the practice of medicine. But more than this has been claimed for them; it is held that by their investigations and their daring departures from the formal edicts and ordinances of the ancients, they assisted in opening the way to more accurate knowledge. The works of Geber, Albertus Magnus, Agrippa, Paracelsus, and Jerome Cardan abound with useful maxims mingled with what appears to us the veriest nonsense. An admirable picture of the thought and work of this period is given in Prof. Henry Morley's Life of Cardan.

Many of the beliefs which originated in this period doubtless still exist among the people. One instance of this survival has come under my notice not infrequently. Patients suffering from various forms of eye disease tell us that before seeking our advice they have used a popular herbal remedy called Eyebright —the *Euphrasia*. Now the use of this plant in diseases of the eye is a survival of the whimsical doctrine of signatures, invented by Paracelsus. This doctrine of signatures rested upon a supposed fitness in the remedy from some real or fancied resemblance in shape or colour to the organ affected; or upon some fancied relation between the astrological government of the remedy and that of the part of the human body to which it was applied; and eyebright was a good remedy for diseases of the eye because there is a little black dot upon the corolla which, with the aid of a vigorous imagination, looks something like the pupil of an eye. As good a reason, some cynic may exclaim, as that given for the fitness of more than one vaunted remedy of modern times. This I would not dispute. Taken all throughout it may be said that this period of the history of our art offers an attractive field to the students of folk-lore and popular medicine, as well as to those interested in occultism.

Still it must be unhesitatingly conceded that this period offers no comparison in value to that immediately succeeding it, when the experimental method gained sway, and Nature came to be accurately observed and understood. Then medicine was freed from the trammels of centuries, and its reorganisation begun on a rational-synthetic basis. And Vesalius, Fallopius, Eustachius, Sylvius, Harvey, Willis, and many other sterling workers, by their investigations in anatomy, physiology, and the natural sciences, prepared the way for the illustrious pioneers of our modern practice, among whom stand out prominently Sydenham, Boerhaave, Haller, Fabricius de Aquapendente, Alpinus, Paré, Morgagni, and John Hunter.

The mention of these glorious names brings me to the consideration of one most important branch of the history of medicine, a branch without which the tree of our knowledge would be singularly incomplete. I refer to the study of the lives of the famous men to whom we owe the foundations of our knowledge, and the fruits of whose labours we inherit. It has been well said* that "in all ages the biographies of great men have been fruitful in lessons; in all ages they have been powerful stimulants to a noble ambition; in all ages they have been regarded as armouries wherein are gathered the weapons with which great battles have been won." It is well known that the leaders of men make deeper and more lasting impress on their fellows by example than by precept. Hence the value in our education, whilst assimilating the precepts of our great teachers, of learning all we can of their lives, their actions, their fortunes, so as to add as far as possible to the reception of their teachings the conception of their personalities. This object full and accurate biographies ought to enable us in great measure to accomplish.

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* George Henry Lewes—"Life of Goethe."

Gentlemen,—In these remarks I have traversed in a very desultory manner some of the lines of thought which would naturally suggest themselves to one urging a plea such as mine—and the following conclusions present themselves to me :—First, that the neglect of the study of the History of Medicine, which is now so general, is due to an imperfect appreciation of the advantages to be gained from the pursuit.

Second, that the advantages are real and practical. That besides being of direct value in the details of our work, this study helps to cultivate our minds in the sense in which all historical training operates, namely, by sharpening our powers of observation and investigation, by teaching us the necessity of accuracy, and by bringing before us in clear light the connection and relation of cause and effect in the progress of human life.

Third, it affords us the great moral advantages of a knowledge of the personalities of our great teachers.

Now it is never sufficient to find a fault without proposing a remedy. And the remedy which I have to advise—it is no new one—is the establishment in every University and every medical school of a professional chair of the History of Medicine. I cannot conceive that there can be any difficulty attending the carrying out of this scheme other than that of obtaining the approval of the governing bodies of those institutions. There would not be any difficulty in finding men fitted and eager to devote themselves to the work. And if it be objected that there is no room for such training in the crowded curriculum of the student, I would suggest that it be made a subject for the last summer session when it would be in keeping with his studies at that date. It would then be no longer possible for the student to leave his school knowing little more than the names, (often I fear hardly so much), of the great men whose work has made it possible for him to learn what is essential to the performance of his duty. And if this subject could not be brought within the ordinary curriculum there still remain the post graduate courses which are now finding such favour, and promising to attain a definite and permanent position.

Gentlemen,—I am painfully conscious how feebly I have urged the plea to which this address is devoted. Would that my advocacy had been abler, my powers more worthy! I trust, however, that, besides its specific intention to influence the plan of education of our students, it may be the means of inducing us to turn our minds for a season to the works and lives of our great exemplars, their high hopes and earnest strivings, their failures and their successes, and that in so doing we may find our own resolutions strengthened, new desires awakened, and perseverance in our labours stimulated and rewarded; that we may be touched with a spark of that sacred glow of enthusiasm, that Promethean fire, with which our illustrious ideals were themselves animated.

NOTE ON A CASE OF ETHER ANÆSTHESIA.

~~BY C. E. PURSLOW, M.D.,~~ LOND.

A SHORT time ago I had occasion to give ether to a patient who was suffering from severe jaundice, and I was struck by the unusually long time which elapsed before consciousness and reflex action returned after the anæsthetic.

The patient, a man aet. 34, a farmer, was operated on for an enlargement of the gall bladder, which was opened and drained; he had suffered from jaundice for six months, and at the time of the operation the discoloration of the skin was very severe, and was assuming a greenish tinge.

The ether was administered in a Clover's inhaler, the patient going under its influence very quietly and taking an average length of time to become unconscious. The operation lasted about half an hour, complete anæsthesia being maintained until the stitches were inserted. Two ounces of ether were inhaled.

The breathing and pulse throughout remained slow and regular. After the inhalation ceased, half an hour elapsed before any conjunctival reflex could be obtained, and more than three quarters of an hour before any reflex could be got by pinching the face, the patient breathing placidly all the time; after this he gradually came round, but had no vomiting.

I should mention that both eyes were tried for conjunctival reflex, as I have found by experience that when one eye alone is touched the nervous chain becomes, so to speak, wearied and reflex closure will not ensue, although it occurs at once on trying the other eye. The pupils were moderately dilated throughout.

I conclude that the presence of bile in the blood was the cause of the unusual length of time during which the nervous system remained under the influence of the anæsthetic, as the quantity of ether given was small, and in numerous cases in which I have administered it in the same way I have never before seen so long an interval elapse before consciousness returned.

Birm. Med. Rev.

E. Purslow M.D.

REPORTS OF CASES.

TWO CASES OF TEMPORARY MYDRIASIS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Case 1.—*Mydriasis ; Cycloplegia ; Headache ; Vomiting ; Recovery.*

Walter H., aged 6, was brought to me as an out-patient on Oct. 21st, 1884, complaining of constant blinking. His pupils were dilated. His mother said that he had been sick several times, and that he appeared to have a headache. He had been ill for eight weeks, but had not had medical advice, having from time to time stayed away from school and got better with rest. He had always been bright and quick at his lessons. He was one of four children; all the others were well; but a maternal uncle was in an asylum and had had fits; his father was highly neurotic; out of eleven children by the first wife only three were living, two of these were imbecile and the other was extremely hysterical. His pupils were widely dilated, especially the left; they reacted to light imperfectly, and not at all to accommodation. There was entire failure of accommodation. Ophthalmoscopic appearances normal. H. $\frac{1}{48}$ in each eye. V. = $\frac{15}{xv}$ His hands were cold; tongue clean ; bowels rather loose ; appetite very greedy ; never had worms. Physical signs in thorax and abdomen normal Urine free from albumen and sugar.

Oct. 28th. Better ; pupils very mobile ; the left rather larger still; no more sickness.

Nov. 4th. Pupils normal.

Case 2.—*Mydriasis ; Cycloplegia ; Headache ; Vomiting ; Recovery.*

Isabella J., aged 12, school girl, was admitted into hospital on May 8th, 1889, complaining of frontal headache, sickness and giddiness. Five weeks ago she was kneeling down cleaning the grate, when a violent pain came on in the right frontal eminence; she felt very sick and giddy. The pain lasted all day, and she had had several similar attacks since, some of them coming on just after she had gone to bed.

Up to the beginning of this illness she was quite well. Her grandmother said that seven years ago she received a blow with a stick on the top of the head. On April 23rd she was brought to the Eye Hospital complaining of dimness of vision and seeing double. Dr. Young found that she had mydriasis, with paralysis of accommodation and diplopia for distant objects; $V. = \frac{5}{v}$; ophthalmoscopic appearances normal. He thought the condition was due to atropine, and sent her away for a week, after putting in some eserine drops. At the end of a week she was no better; so she was sent to Dr. Saundby at the General Hospital.

She was a well-developed fairly well-nourished child of dark complexion, with brown hair and blue eyes. There were pigmented patches over the toes, insteps, and knees, where there had been pressure from the clothes or posture, and also in the groins and axilla, the vulva and neck. The mucous membrane of the mouth was not discoloured. She said her mother had remarked that she was getting darker.

P. 120, R. 18, T. 98°. Tongue a little furred; bowels confined since admission; abdomen normal; no pain or tenderness in loins; liver dulness in V. M. L. 4 in.; splenic dulness in M. A. L. 1¾ in. Heart and lungs normal.

She said her eyesight had been failing for the last six weeks; her pupils were widely dilated and reacted neither to light nor accommodation; the diplopia had disappeared; ophthalmoscopic appearances normal. Urine, acid, 1019, a faint haze of albumen, no sugar.

May 10th. Eyesight much improved; could read small type quite well and see distant objects perfectly.

11th. Eserine discs put in eyes at 12 noon; the pupils began to contract at once and remained so for six hours, when the effect passed off.

13th. Pupils smaller; begin to react to light and accommodation; eserine used daily.

18th. Right pupil smaller than left; both react well to light and accommodation; eyesight quite normal; no sickness, giddiness, or frontal headache since admission.

19th. Discharged cured.

June 4th. She keeps quite well; and the pupils are normal.

Remarks—In the absence of any evidence of the use of such a poison as atropine, belladonna, muscarine, etc., in their dúration, in the diplopia of the second case, and in the concurrent sickness and headache, there are good grounds for regarding these cases as examples of mydriasis with cycloplegia of central origin.

Of the nature of the lesion one can say little; it resembled greatly the disturbance of migraine, its effects being equally transient, but differed by being symmetrical instead of unilateral.

SOME CASES OF HÆMO-PERICARDIUM.

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The following cases are, I think, of sufficient interest to be placed on record. They form a series which has occurred in the practice of the Wolverhampton General Hospital during the last two years, the common feature of which is rapidly fatal hæmorrhage into the sac of the pericardium. Three of them were caused by the rupture of a small aneurism of the first part of the aorta, one was due to the giving way of an atheromatous ulcer in the same situation, another to the bursting of an aneurism of one of the coronary arteries, and the last owed its origin to a penetrating wound of the heart. Briefly stated they are as follows:—

Case 1.—J. D., æt. 5, admitted January 29, 1887, under the care of Dr. Malet. He was a pale, emaciated, feeble child, with scarcely sufficient strength to walk. According to the statement of his parents he had suffered from intense thirst and copious diuresis for about three weeks. Enormous quantities of pale clear urine were passed, the specific gravity of which was 1002 and free from sugar and albumen. No abnormality could be detected in the thoracic organs. When attempting to sit up in bed on the morning of February 1st, he complained of sudden pain in the chest, fell back and died immediately. At the autopsy the pericardium was found distended with about five or six ounces of blood-clot. A softened spot, surrounded by ecchymosis, was discovered in that part of the wall of the left ventricle which is overlapped by the appendix of the left auricle, the appendix itself being discoloured externally but its internal surface healthy. A probe passed along the left coronary artery from the aorta appeared at this softened spot, and on dissection the calibre of the artery was here seen to be increased and the arterial walls attenuated; the aneurism thus formed being about the size of a pea. It was clearly from a rupture of this aneurism that the hæmorrhage had occurred.

This case is, I think, a decidedly rare one. I have been able to collect nine such cases, a *résumé* of most of which by Dr. Crisp will be found in the twenty-second volume of the *Transactions of the Pathological Society of London*, but in most of them the subjects had reached an advanced age, and the chief interest attaching to this particular case is the early age of the patient.

Case 2.—R. L., æt. 37, was suddenly seized with a pain in the chest whilst at work; he was immediately conveyed to the hospital but on arrival was quite dead. The ascending and transverse parts of the aortic arch were enormously dilated and had several aneurisms springing from them, one of which pressed on the pulmonary veins. On the inferior aspect of one of these aneurisms was an aperture communicating with the pericardium; it had thin ragged edges and barely admitted the tip of the little finger. The pericardium contained about fifteen ounces of clotted blood. The lungs were œdematous and the arterial system diseased generally.

The interesting point in connection with this case was the immunity (with the exception of a slight cough for a few days) from any serious or distressing symptoms till the time of the man's sudden death.

Case 3.—William J., æt. 39, admitted under Mr. Manby for burns of the chest and back. I was called in consultation concerning this case by my colleague, Mr. Gough. The patient had been seized during the morning by an attack of syncope, from which he rallied a little later; but he became worse again during the day and gradually sank, dying the same evening. From the symptoms presented, chiefly increasing anæmia, a diagnosis of internal hæmorrhage was made. After death the pericardium was found to be distended with about 15 ounces of clotted blood; the first part of the aorta was dilated to the size of a Tangerine orange, and communicated by a small aperture with the sac of the pericardium; the greater part of the interior of the aneurism was lined by pale fibrinous material to the depth of about a quarter of an inch. The heart was small, weighing only nine ounces, and its valves healthy. Here, again, in this case, the patient was apparently in good health, and followed his occupation up to the time of the accident for which he was admitted.

Case 4.—A. B., æt. 19, was brought to the hospital after having received a penetrating wound of the heart about twenty minutes previously. He was quite dead. There was a punctured wound in the fifth intercostal space about 1½in. internal to the left nipple. The knife, or whatever instrument inflicted the wound, had entered the anterior surface of the heart about 2in. from the apex, opening the left ventricle and perforating the intra-ventricular septum. The pericardium contained about eight ounces of blood clot. Owing to a wound of the edge of the left pleura where it overlaps the pericardium, about ten ounces of blood had escaped into this cavity.

Case 5.—E. F., æt. 45, admitted Feb. 22nd, 1889, under the care of Dr. Totherick. This patient was admitted for general œdema, thought to be renal in origin. He died suddenly the same night when trying to sit up in bed. At the *post mortem* examination the heart was seen to be hypertrophied, but the valves competent; the pericardium contained about eighteen ounces of clotted blood. The first part of the aorta was dilated, chiefly on the posterior aspect, where were situated two atheromatous ulcers, each about the size of a shilling, the inferior of which had given way, the aperture thus formed admitting the tip of a No. 8 catheter. The whole of the arterial system shewed signs of degeneration, several ulcers being found in the abdominal aorta.

Case 6.—P. M., æt. 40, was brought to the hospital dead on 13th April, 1889, having a short time previously fallen from a cart which he was driving. At the autopsy the pericardium contained about six ounces of blood clot. The intra-pericardial part of the aorta was dilated, and at one point a smooth, attenuated patch had given way and allowed hæmorrhage to take place. The heart was hypertrophied, and the valves contained atheromatous deposits.

In addition to the interest these cases afford to the pathologist they shew that the bursting of an aneurism or of a large blood-vessel is not an uncommon cause of sudden death, and it is quite possible that such cases may sometimes be ascribed to fatty disease of the walls of the heart when a *post mortem* examination is not made. Many similar cases, too numerous to mention, may be seen reported in the earlier volumes of the *Transactions of the Pathological Society.* In many instances the immediate cause of the rupture is, doubtless, some muscular exertion on the part of the patient, but the high arterial tension found in some forms of Bright's disease, and from which some of the above reported cases suffered, would materially add to the danger of the condition

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Electrical Stimulation of the Heart in Man.—John A. MacWilliam (*Brit. Med. Journal*, Feb. 16th, 1889).—The author believes that stimulation of the heart may be at times of service in cases of imminent failure.

"In order to do this in man, one electrode should be applied in front over the area of cardiac impulse, and the other over the region of the fourth dorsal vertebra behind, so that the induction shocks may traverse the organ. The electrodes should be of considerable extent (for example, large sponge electrodes), and they and the skin should be well moistened with salt solution. The shocks employed should be strong, sufficient to excite powerful contraction in the voluntary muscles."

"Such a method," he says, "it seems to me, is the only rational and effective one for stimulating by direct means the action of a heart which has been suddenly enfeebled or arrested in diastole by causes of a temporary and transient character. Of course, at the same time, the expedient of artificial respiration must by no means be neglected, but, on the contrary, most sedulously attended to."

An Old Highland Form of Massage, Popularly Practised for the Prevention of Consumption.—The Rev. D. T. Masson, M.A., M.D. (*British Medical Journal*, April 20th, 1889).—All over the counties of Ross, Sutherland and Caithness there was practised in my early days a form of chest massage for the prevention of consumption.

The *modus operandi* was as follows:—The patient, stripped to the loins, was seated on a high stool, while the operator—usually a strong, healthy, muscular woman—stood behind. The patient was first made to raise his arms and join hands over the top of the head or behind the neck. The operator now advanced a hand on each side of the patient, from behind forwards, till both her hands met over the third and fourth segments of the sternum, whence, with firm, equable pressure, her palms, lubricated with sweet fresh butter, were swept downward and backward, following the line of the lower border of the chest. After two or three similar passes of the operator's palms over the same region, and with increasing pressure, her fingers were slightly curved downwards and inwards, so that in the sweep from sternum to spine the lower border of her palm, and especially the outer side of the little finger and tip of the fourth, were to some extent hooked under the lower border of the chest. Little by little this action was accentuated, till, in the backward sweep of the operator's palms, her fingers were pushed well under the lower border of the chest and the false ribs, pulling them steadily outwards. After this the backward sweep of her palms was carried step by step up the chest, sweep after sweep coming nearer the clavicle, where again the tips of the fingers, though in a modified way and to a greatly lessened extent, played the same part as they had been made to play at the lower border of the chest. And now came the critical part of the operation. In most persons, even while yet young, the xiphoid cartilage tends greatly to curve inwards into the abdomen. To the in-growing xiphoid, therefore, she now paid special attention. While her thumb made a succession of short steady passes, with considerable pressure, over what in young persons may be called the sterno-xiphoid articulation, her fingers watched their opportunity to get in under the free end of the xiphoid, so as to pull it outwards, and thus by continued and repeated manipulation to train it, as it were, into a more healthful direction. This manipulation was again very energetically practised along the whole lower border of the chest bit by bit, pulling outwards and upwards that whole plate of pliable semi-palmated cartilage which there terminates the five lower true ribs, and forms the outer inferior boundary of the thorax. Bit by bit, from the xiphoid to near the spine, she thus dug her four powerful fingers under this cartilaginous lower border of the chest under the free ends of the false ribs, pulling them outwards with an energy that gave no little pain. This she called "opening the chest;" and it certainly seemed as if she had effectually increased the breathing capacity of the lungs.

Treatment of Acute Intestinal Obstruction.—Marmaduke Shield (*British Medical Journal*, 1889, Vol. i., p. 716).—He recommends copious enemata of oil and milk, with a little assafœtida if much flatus is present. If these fail to overcome the obstruction, the patient should be inverted and the abdominal walls galvanised; and if this prove ineffective, abdominal section should be resorted to. He deprecates postponing the operation, as late operations are useless.

A Compound Liquorice Powder.—Mr. J. H. Fisher (*Brit. Med. Journal*, April 6th, 1889), in a paper recently read before the Pharmaceutical Society, said that he had some years ago prepared, at the suggestion of a medical practitioner, a compound liquorice powder, which was in some respects an improvement on the pharmacopœial powder; it had a pleasanter taste, tart rather than sweet; it was more easily miscible with water; it was less liable to gripe. It was, however, a somewhat more powerful aperient, and had some diuretic and "refrigerant" properties. The formula, which differs from the formula of the *B.P.* by the substitution of cream of tartar for some of the sugar, is as follows:—Senna, 2 parts; liquorice powder, 2 parts; fennel, 1 part; sublimed sulphur, 1 part; cream of tartar, 4 parts; sugar, 2 parts.

Phenol in Enteric Fever.—Frank M. Pope, M.B. (*The Lancet*, April 13th, 1889) The author refers to a paper of Dr. Gramshaw (*The Lancet*, June 22nd, 1888), in which he recommended the following to be given every four hours in enteric fever:—Phenol, gr. j.; tincture of iodine, gr. 1½. He has tried it in 22 cases, of whom 20 were under twenty years of age and 7 under ten years; thus a very large proportion were of the ages at which, as a rule, the disease runs a mild course. The result was that there was no reduction of mortality or liability to collapse, as compared with 120 cases not so treated.

Sulphur in the Treatment of Disease.—We are not ignorant in Birmingham of the value of sulphur as a remedy in a number of diseases, chiefly of the skin, of the bronchial mucous membrane, of the alimentary canal, of the joints. Sir Alfred B. Garrod has recently (*Lancet*, April 6th, 1889) informed the profession that he has for some time used lozenges containing five grains of milk of sulphur and one grain of cream of tartar, and which he calls "Compound Sulphur Lozenges," in sluggish liver, in bronchial affections, in chronic cystitis, in acne, psoriasis, prurigo, eczema (especially the gouty form), in pruritus ani, in cramps and irregular forms of gout, in rheumatoid arthritis, &c.

Chloroform as an Internal Remedy.—Dr. Stepp, of Nüremberg, noting the observations of Salkowski on the disinfecting power of chloroform water, determined to make trial of chloroform internally in a considerable number of diseases. In gastric ulcer Dr. Stepp gave chloroform (fifteen grains in a five-ounce bismuth mixture) with great effect, and believes this to be due to its disinfecting, astringent, and stimulating properties. In various affections of the mouth and throat, as follicular pharyngitis, catarrh of the pharynx, gingivitis, and diphtheria, washes and gargles containing chloroform proved very beneficial.—*Lancet*, March 9th, 1889.

Prof. Bianchi recommends chloroform water instead of alkaline solutions in washing out the stomach.—*Deutsche medicinische Wochenschrift*, Feb. 7th, 1889.

The Use of Indian Hemp in the Treatment of Chronic Chloral and Chronic Opium Poisoning.—E. A. Birch, M.D., M.R.C.P. (*The Lancet*, 1889, vol. i., p. 625).—In 1887, at Calcutta, I met with two cases, both of them distressing and interesting. The first was that of a European gentleman, who brought his wife with a view to placing her under a physician in consequence of her habits as a confirmed chloral drinker. She made no real effort to overcome her vice.. When denied her regular dose on two occasions, she became so outrageous, and, in her husband's opinion, so alarmingly ill, that she remained but a few days in town, and she ultimately died. The patient was a fresh, healthy-looking man, whose occupation was out-door and health-giving. He neither drank nor smoked. I could not ascertain with any certainty, how long he had been addicted to chloral, but I suspected he commenced it long before his wife's death, though that event was the excuse he offered in extenuation. His organs were healthy, and worked healthily, except the functionally deranged heart. I prescribed a sea trip, a mixture containing tinct. cannabis indica (ten minims), tinct. strophanth., and tinct. chlorof. co., with a bitter infusion, and appealed to him in the strongest language to abandon his vice. Six weeks later he returned, in much the same state, and reported that he had not given up his chloral. He now agreed voluntarily to place himself under circumstances which admitted of surveillance and restraint. His chloral was peremptorily stopped, and he was prescribed a pill containing half a grain of ext. cannabis ind. with a few grains of the compound colocynth pill, to be taken three times a day. The result was an *immediate* improvement. The craving for the chloral had almost vanished in twenty-four hours, natural sleep returned after a few days, and he began to enjoy his food. Eventually he returned to his home and work, a happy man; but much disappointed because the name of the drug used was not communicated to him.

The second case was briefly this: I was requested to see a young Eurasian gentleman aged about twenty-four years, yellow, intensely anæmic, and extremely emaciated—an "exhumed corpse," in fact, lying upon a couch, suffering acute agony in every limb. His liver and spleen were both materially enlarged. Occupying a position of considerable responsibility, and compelled to reside in one of the most desolate and depressing regions of Bengal, he became a very excessive spirit drinker, till he resolved to conquer the habit, and he did so, but with the assistance of opium. Laudanum was the form selected, and he admitted having consumed two ounces daily. His friends were quite hopeless of the possibility of recovery. Here there was the well-known train of symptoms—insomnia, anorexia, disordered bowels, conscious delusions, and so forth. Again I resorted to cannabis, commencing with a quarter of a grain of the extract, gradually increasing it to half a grain, one grain, and one grain and a half three times a day. Ability to take food and retain it returned, and appetite appeared; he began to sleep well; his pulse exhibited some volume; flesh rapidly accumulated; and after three weeks he was able to take a turn upon the verandah with the aid of a stick. After the lapse of six weeks he spoke of returning to his post, and I never saw him again.

MEDICINE.—DISEASES OF THE CHEST.

BY ARTHUR FOXWELL, M.B. CANTAB.

Aortic Aneurism.—In the *Amer. Journ. of Med. Sci.* for March, 1889, Dr. H. M. Biggs has a report on 32 cases of aortic aneurism and 2 of spontaneous rupture of the aorta without previous dilatation. Of the 32 cases, 24 were saccular, 3 fusiform, 2 dissecting, and 3 both saccular and fusiform. One of the 24 saccular had five distinct aneurisms, and one of the saccular and fusiform had four of the former and three of the latter. Rupture took place into the pericardium in 16 cases, and twice into the left pleura, the right pleura, and left pleura and lung respectively. One each into the œsophagus, left bronchus, left lung, left bronchus and lung, spinal canal, and retroperitoneal tissue. Three into the peritoneal cavity.

Out of 28 cases of thoracic aneurism a history suggestive of it was only present in 11; and in 7 of these 11 the site was at or beyond the junction of the ascending or transverse aorta. In 9 out of 12 situated wholly on the ascending arch there was no history suggestive of aneurism.

In almost every case in which the immediate circumstances were known death was very nearly instantaneous. It occurred in but a few instances during severe muscular exercise. Nevertheless the site was most frequently that of the greatest strain, that is on the outer surface of the ascending portion of the arch.

In several cases there were attacks of hæmoptysis previous to the fatal hæmorrhage: in these the rupture occurred first into the lung *and then* made its way into the pleural cavity, there being adhesions between the sac and the lung—in none was there any pulmonary tuberculosis.

Of the two cases of spontaneous rupture one was that of a domestic servant who was in the last stage of tubercular peritonitis, the rupture being due to the giving way of a calcified plate; and the other was an alcoholic ironworker, where a transverse intra-pericardial rupture was found in a healthy but somewhat thinned portion of the vessel.

With regard to the pathology of aortic aneurism the writer believes that "the preceding changes are in the majority of cases situated in the middle coat, and may or may not be accompanied by changes in the intima. These changes seem to be of a degenerative rather than of an inflammatory nature. There is granular disintegration and disappearance of the elastic fibres and fatty degeneration of the muscle cells. The middle coat often has almost disappeared in small saccular dilatations, when the intima is unaffected and only slightly thickened. In those cases where the process is a rapid one and when rupture occurs early, there is frequently little or no new growth of connective tissue and few or no infiltrated leucocytes in the degenerated media. When the process is slower or later in its course there is often a secondary new growth of connective tissue. But this, it seems to me, is not inflammatory in its nature and is not primary, but it is a fibrous hyperplasia, is secondary, and is to be regarded as a conservative process. After the degeneration of the muscular and elastic fibres, these are not reproduced, but in the attempt at repair their place is taken by new-formed fibrous connective tissue. This is a kind of fibrous hyperplasia —a scar tissue. That simple atheroma and endarteritis do not usually produce the changes preceding dilatation, is shewn by the absence or slightly marked character of these processes in many cases of rapidly forming aneurisms, and by the very extensive changes of this nature that are often present without dilatation. In fact, in my own experience in those cases in which there was the greatest change in the intima, as a rule, no dilatation, or very slight dilatation, was present. In small saccular dilatations, one fourth or one half of one inch in width, of rapid formation, I have found in a number of instances at the point of dilatation absence, or almost complete absence, of the middle coat. This had disappeared first at the point of dilatation on each side of the sac. The intima, in some cases, shewed marked changes, and in others only very slight changes in structure. Occasionally the process in the media is inflammatory in character, and is properly designated mesarteritis ; but these cases are the exception rather than the rule. In them the adventitia is also often involved, and a dense round cell infiltration is found round the vasa vasorum."

This view of aneurismal pathology is quoted at length because it appears to be new, so late an authority as Professor Hamilton, for instance, stating—"The starting-point of most of the aneurisms of the larger trunks is an atheromatous endoarteritis," making no remark at all as to any *primary* degeneration occurring in the media. The newness of view should have induced the author to accompany it with accurate microscopic drawings. Till such appear we shall be loth to alter our ideas on the bare statement of one observer, although we admit that the pathology of aneurism referring everything to the intima has always seemed most unsatisfactory, since, in our experience as in the author's, the very worst cases of endarteritis have been unaccompanied by local dilatation.

The Cardiac Ventricles.—Macdonald Brown, in the *Jour. Anat. Phys.*, vol. 23, p. 250, draws the following conclusions :—1. The right ventricle is liable at times to become surcharged with blood, and to this slight over-distension the character of its wall especially lends itself. To oppose this, two forces seem to be at work, viz., the "safety-valve" action of the tricuspid (Wilkinson King, Guy's Hosp. Reports, 1837, vol. ii., p. 122) and the various small bands, fibrous and muscular, which cross the cavity, in its lower half especially, and which must to some extent help to antagonise over-dilatation. 2. In addition to these, he believes that the anterior papillary muscle largely counteracts over-distension of the right ventricle. When the cavity has become filled with blood and the valve-flaps floated into position of closure, then, the ventricle contracting, this papillary muscle not only fixes the cusps, pulling them towards the interior of the chamber, but reacts on the wall. This latter influence, owing to the trabecular radiation at the attachment of the muscle, affects a considerable area. 3. The moderator band was not once absent in 100 human hearts which he examined. Brown believes that it helps to strengthen the ventricular wall both by raising the base of the papillary muscle and by pulling it towards the septum. He thinks it probable also that it largely serves, by its contraction, to direct the blood stream towards the pulmonary orifice. 4. In many cases of but *slightly* dilated right heart the dilatation was found to exist only posteriorly to the anterior papillary muscle and the moderator band.

Collier, in his Erasmus Wilson Lectures on *The Mechanism of the Heart and its Valves*, quotes Rolleston as shewing that during diastole the pressure in both ventricles is less than that of the atmosphere, and then continues—"I think we may take it as an established fact that the ventricle is capable of and does actually expand *per se*, so as to suck blood with considerable force from the great veins and auricles. This fact being established, the necessity for a vigorous contraction of the auricle ceases, and the absence of valves at the root of the great veins and in the liver is explained." His explanation of the closure of the auriculo-ventricular valves is as follows:—"That contraction of the ventricles begins in the musculi papillares; that the musculi papillares begin to contract from the commencement of the diastole of the ventricle, and so bring the valves together. Thus it would appear that the valves are brought into apposition before the ventricle is quite full; that as soon as the ventricle has ceased to dilate, and the tension in the ventricle commences to rise, the valves become closely approximated and remain efficient."

Only the first part of the aorta is dilated by the ventricle's contraction. At the Brown Institution, in conjunction with Horsley, he found the aorta in dogs always dilated enough to account for the whole of the blood sent out by the ventricle. As fluid pressure is equal in all directions and as the area of a cross-section of the aorta is much less than that of its cylindrical circumference, it is evident that most of the ventricle's force will be spent on dilating the aorta and only a comparatively small amount on driving the blood onward. The tension in the aorta and therefore in the ventricle naturally increases with the duration of the systole till, at the last, tension is at its maximum and velocity at its minimum. In some experiments on dogs Collier failed to observe any contraction of the auricle as a whole, nor any wave of contraction spreading from the great veins towards the auricle. But the appendix contracted sensibly and vigorously immediately before the ventricular systole: it completely emptied itself and became pale and shrivelled. He believes that the presystolic murmur is certainly not caused by the contraction of the auricle: first, because either the contraction of the appendix or the aspiration of the ventricle is an all sufficient cause and, secondly, because in some cases of loud presystolic murmurs the auricle has been found so dilated and thinned as to be physically incapable of anything bordering on a vigorous contraction. [The author in this regard quotes a case of Sansom's where a very loud presystolic murmur, varying with a diastolic, existed during life: *post mortem* the auricle was greatly dilated with a half-inch lining of laminated fibrine.]

Collier does not agree that the second sound is caused by the closure of the semilunars; for this does not take place with a sudden smack, but gradually, as the tension on the aortic side gradually exceeds the ventricular; the valves thus gently coming to. The second sound is rather caused by the sharp vibration of the valves *after* their closure when the ventricle suddenly begins to dilate and so removes all pressure from their ventricular surfaces. A similar strain and consequent vibration of the auriculo-ventricular valves, aided by the sound of the muscular contraction of the ventricles accounts for the first sound.—*The Illustrated Medical News*, April 27th and May 4th, 1889.

Empyema; Abscess in Wall of Left Ventricle; Multiple Embolisms.—This remarkable case is described by Godlee in the January number of the *Practitioner*:—A girl, aged 12, mother dead of phthisis and with a three years' personal history of "heart disease," was an out-patient in February, 1886, with swelling of the legs and a mitral systolic murmur. In April, 1886, she was made an in-patient with right pleuritic effusion. In June she was re-admitted with double pleurisy. In July, 1887, she was once more admitted with left empyema and friction over the base of the heart. On August 13th four pints of sweet pus were evacuated. At 10-15 p.m. on the 14th it was clear that emboli had escaped into the circulation, and on the 15th pulsation was absent in both popliteals, an aortic murmur (lasting only two or three days) developed, the urine, which had been free, contained one-seventh albumen, and became normal again in a few days, while in the left hypochondrium a severe continuous pain arose. The legs became gangrenous, and thirty days later the left was amputated. Forty days after the escape of the emboli the child died.

Post mortem.—The left lung was not much collapsed owing to adhesions, and the cavity of the empyema was therefore small. It contained many small pockets, and reached downwards to the diaphragm and as far forwards as the heart's apex. The pericardial cavity was completely obliterated by old adhesions. The valves on the right side of the heart were healthy, as also were those of the left side, except for a little puckering and a fine fibrous cord which passed from one aortic cusp to another. The apex of the left ventricle was occupied by an old decolourised clot the size of a large nut, the deep part of which was broken down, and corresponded to an abscess occupying almost the entire thickness of the ventricular wall at the extreme apex. The upper third of the spleen was a grey stinking slough, and communicated with the fundus of the stomach by a small rounded aperture. There was an infarct in the outer border of the left kidney. Godlee thus explains the condition. The removal of the pus from the pleura caused rupture of the abscess in the heart's apex. Hence the emboli. The infarct in the kidney produced the temporary albuminuria; that in the spleen caused its disorganisation; and the temporary murmur was owing to the catching of an embolus on the fibrous cord of the aortic valve.

Why was the splenic infarct infective whilst the others were aseptic? Was the disorganisation not rather due to extension from the empyema? The abscess in the ventricle also probably arose from extension from the empyema. Another question equally pressing is this: Why were not *all* the emboli infective? Their source of origin would certainly have led one to conclude that they were. Yet the *post mortem* showed that none except that in the spleen could have been of such a nature.

SURGERY OF THE URINARY ORGANS.

BY GILBERT BARLING, B.S., F.R.C.S.

The Operative Treatment of the Hypertrophied Prostate.—Watson (*Annals of Surgery*, January, 1889).—This question is discussed at some length here, both from an anatomical and from a clinical point of view. There are three anatomical factors mentioned as determining the choice of operation:—(1) The perinæal distance, that is the distance from the junction of the prostatic and membranous urethra, to the most distant point of the median enlargement within the bladder; (2) the form of the median enlargement, and (3) the capacity of the bladder for retaining sufficient fluid to allow of the modern supra-pubic operation. Examination of 30 specimens obtained by autopsy shewed that 14 were examples of bi-lateral and median enlargement; 9 of median enlargement only; 4 of bi-lateral enlargement only; 2 of median and uni-lateral enlargement; 1 of separate pedunculated tumours. In almost every instance the median growth constituted the chief obstacle to urination, and in 10 it proved the only obstacle. Further, in 21 of the 30 specimens the median enlargement was within reach from the perinæum, and in 10 the capacity of the bladder for distension was so small as to make the modern supra-pubic operation impossible.

To illustrate the clinical side statistics are given of the mortality following palliative operations and that after radical measures, greatly to the disadvantage of the former, the respective rates being 48 per cent. and 17 per cent., but we very much doubt whether any sound conclusion can be drawn from these numbers as to the comparative merits of palliative and radical treatment. The most interesting figures are those relating to prostatectomy—in 12 operations by the perinæum 11 were followed by recovery; of 11 operations by the supra-pubic route 8 were followed by recovery. The paper ends with two cases operated on by the author.

Case 1, aged 80 years, had suffered for three years from prostatic obstruction, and quite recently from cystitis and a false passage. The bladder was opened supra-pubically and an enlargement of the median prostatic lobe found, crescentic in form. This was removed in three pieces with cutting forceps, in all about the size of an unshelled almond. No hæmorrhage took place. The bladder was drained and the patient did well for three days, at the end of which time the temperature rose to 106° F., and death followed in twelve hours. A partial autopsy only was allowed, but nothing was found in the urinary tract to account for death; it is, however, worth noting that the urine was of low specific gravity.

Case 2, aged 74 years, obstruction for six years; catheter necessary during the last three years: severe cystitis three months. As the bladder would only hold two ounces of fluid perinæal prostatotomy was performed. The "perinæal distance" was so great (3½ inches) that it was with great difficulty that a median lobe enlargement, of the form of a bar between the lateral lobes, could be detected. This was centrally divided by a probe-pointed bistoury. A tube was used to drain the bladder for three weeks, since which time it has been taken out in the day time and the bladder emptied by a catheter through the perinæal opening, whilst at night the tube is re-introduced, the power of voluntary micturition not being restored.

The International Journal of Surgery for April, 1889, contains an account of another prostatectomy by the same surgeon. The patient, aged 69 years, had suffered from prostatic obstruction during ten years; for five years the constant use of the catheter was necessary, and latterly sharp hæmorrhage had been present. The high operation was performed, when the prostate presented two lateral projections, each the size of a very large Spanish chestnut and connected by a less prominent median ridge with a false passage in it; around this was a surface the size of the end of one's thumb, covered with granulations, from which the hæmorrhage was probably derived. The lateral portions were divided into halves and removed by a wire ecraseur, the median portion being removed by scissors and curette. Hæmorrhage was slight and the wound was healed by the eighteenth day. Voluntary power of urination was not restored but the bleeding did not recur.

Mr. Arbuthnot Lane records a case of prostatectomy in the *Lancet*, April 27, 1889. The patient, aged 72, the subject of chronic bronchitis and emphysema, suffered suddenly from almost complete prostatic obstruction with severe hæmaturia. Repeated and easy passage of the catheter gave no relief, and when admitted to hospital the patient was very anæmic and feeble and his pulse was intermittent. Per rectum a general enlargement of the prostate was felt and a special projection of the middle lobe, the upper margin of which the finger could not reach. The bladder was opened above the pubes and a sessile globular mass, the size of a Tangerine orange, was found projecting upwards immediately behind the neck of the organ. An attempt to enucleate this failed, so it was removed by the wire ecraseur with but little bleeding. The wound was left open and was irrigated twice a day with 1 in 500 of perchloride of mercury.

Good progress was made for eight days, when he failed to get up his expectoration, his temperature rose, and he died on the eleventh day. The autopsy shewed much sticky pus in the bronchial tubes, comparatively little change in the kidneys, the absence of peritonitis and of urine extravasation.

Sarcoma Bladder; Excision; 18 months without relapse.—Whitehead (*Lancet*, February 23rd, 1889).—The patient, a male aged 46, had suffered at long and irregular intervals from hæmaturia, and for three months from dribbling of urine with inability to micturate more than a few drops. The urine was alkaline, S.G. 1010, and contained a quantity of blood. The sound encountered some obstruction at the neck of the bladder, but on overcoming this nothing definite could be felt nor could a tumour be detected per rectum. A perinæal opening revealed a soft diffused growth involving the base and the posterior and lateral walls and to complete its removal, which was done with forceps and fingers, the bladder was opened above the pubes without either rectal or bladder distension; hæmorrhage was moderate. A good recovery followed, and the growth proved to be a lympho-sarcoma. Eighteen months subsequent to the operation the patient states that his urine is clear, that he can hold it for three or four hours, passing it easily, and that his general health is good.

Pedunculated Sarcoma Bladder; Excision; Death.—Golding-Bird (*Brit. Med. J.*, January 5th, 1889).—The patient, a woman aged 55, had suffered from hæmaturia, pain, and frequent micturition, and stoppage of water occasionally for eighteen months, and she had also passed gravel at times. On sounding, no stone could be detected so a digital examination per urethram was at once made and a pedunculated tumour detected on the posterior wall somewhat to the left; it was compact, of the size of a hen's egg and the pedicle was as thick as the thumb. The tumour was subsequently removed suprapubically, with great ease, by means of the electric cautery ecraseur and the wound left open. Though the wound looked well and the temperature gave no anxiety, troublesome vomiting followed the operation and the patient died, after rapid collapse, on the fifth day. *Post mortem* it was found that the cellular tissue in front of the bladder was infiltrated with pus and there was a little peritonitis in the vesico-uterine pouch. Examination of the bladder shewed that the growth had been completely removed but that its pedicle was larger than had been supposed. The tumour proved to be a small round-cell sarcoma.

Electrolysis for Stricture of the Urethra.—(*Journal de Médecine de Paris*, April 28th, 1889, Dr. J. A. Fort).—An interesting case is reported in which the patient had twice previously been subjected to gradual dilatation and once to rapid dilatation. When electrolysis was commenced the main stricture, situated eighteen centimetres from the meatus, admitted a No 7 French bougie. A current of sixteen milliamperes was used for about two minutes and then a No. 20 bougie was passed; at the end of a fortnight the same instrument was again passed with great ease. The patient suffered scarcely any pain; there was no bleeding, and orchitis and cystitis, which followed the previous methods of treatment, were avoided.

Tuberculosis of the Penis; Amputation.—An abstract of this case is given in the *Illust. Med. News* for Jan. 5th, 1889. The patient, aged 49 years, presented an ulceration on the glans penis the size of a five-shilling piece, having the ordinary character of a tubercular ulcer. This had been previously diagnosed as a soft chancre, but the subsequent progress of the sore and the discovery of the tubercle bacillus cleared up the diagnosis. On amputating the organ, it was discovered that the corpora cavernosa were completely infiltrated, so the whole penis was removed, and the patient left the hospital perfectly cured.

Removal of both Testes at different times for Carcinoma of the Epididymis.—F. W. Rockwell (*Annals of Surgery*, Dec. 1888). The patient, aged 35 years, presented himself with a hard tumour, the size of a large grape, in the head of the left epididymis, the skin being firmly adherent to it. Another small nodule existed in the tail of the epididymis, but the body of the testis was free from disease, as were the lymphatic glands. The whole organ was removed, and the tumour proved on examination to be a scirrhus carcinoma. About three months after the operation the patient presented himself with a smaller tumour occupying the left epididymis, and having the same physical characters. The stump of the right cord and the lymphatic glands on both sides were free from disease, so the left testicle was removed and the growth found to be similar to that on the opposite side, and in structure identical with a specimen presented to the Pathological Society in London by Bryant. The patient was perfectly well fourteen months after the second operation.

DISEASES OF THE NERVOUS SYSTEM.

BY C. W. SUCKLING, M D. (LOND.). M.R.C.P.
PHYSICIAN TO THE QUEEN'S HOSPITAL.

Muscular Atrophy in Locomotor Ataxia.—M. J. Dejerine, in the *Revue de Médecine* for February, March, and April of this year, contributes an important article upon muscular atrophy occurring in tabetic patients. His researches are based upon nineteen cases of atrophy in tabetic patients, in nine of which an autopsy with microscopical examination had been performed. He concludes that the muscular atrophy which frequently supervenes in the course of tabes is not an independent affection but that it is an integral part of the symptomatology of locomotor ataxy. The atrophy supervenes usually at an advanced stage of tabes and is mostly symmetrical but of slow development. It commences almost always in the muscles of the extremities (hands and feet), and a little oftener in the lower than in the upper extremities. The predominence of the atrophy in the muscles of the extremities, whatever the degree of generalisation attained, is the rule, the contrary very rare. In the lower extremities the atrophy is shown by the production of the equine foot with plantar flexion of the toes, especially of the big toe.

In the upper extremities it is usually of the Aran Duchenne type (clawed hand, etc.); very rarely it belongs to the scapulo-humeral or anti-brachial types. The muscular atrophy of tabetics is not accompanied by fibrillary contractions. Idio-muscular contractility is diminished or abolished. Faradic and galvanic contractility is modified quantitatively only, the reaction of degeneration being rare. The muscular atrophy is due to an alteration in the motor nerves, diminishing in intensity from the periphery to the centre, extending however in some cases as far as the anterior roots. The alteration in the motor nerves is purely peripheral, the motor cells of the anterior cornua being unaffected. M. J. Dejerine considers that it is conclusively proved that muscular atrophy due to peripheral neuritis frequently occurs in tabetics.

Relapsing Multiple Peripheral Neuritis—Impaccianti (vide *London Medical Record*, Feb. 20th, 1889) has recorded the case of a boy, aged 18, who complained of weakness in the legs and arms with wasting of the muscles of the thenar and hypothenar eminences. The knee jerk was absent on both sides. There was no tenderness along the course of the principal nerve trunks. The pupils were unaffected, as were also the bladder and rectum. Common sensation was only slightly diminished on the anterior surface of the forearms, the palms, the anterior and inner surfaces of the thighs and on portions of the back. Later on, the symptoms deepened in intensity, and the reaction of degeneration became marked. He was treated with iodide of potassium, vapour baths and complete rest, and in three months he was walking about again. A few months later, after a fresh exposure to cold and wet, he had a relapse and became much worse than ever. The muscular wasting was extreme, the fingers were flexed, the feet were in a condition of talipes equinus-varus, and the intercostal muscles were greatly affected, breathing becoming laboured. The patient however again rallied. The author points out the resemblance of these cases of peripheral neuritis (where sensory disturbances are slight or absent) to anterior poliomyelitis. Exposure to cold is now a well-recognised cause of multiple peripheral neuritis.

"*Procursive*" *Epilepsy.*—Mairet contributes an article upon this variety of epilepsy in the *Revue de Médecine*, Feb., 1889. The term signifies an attack in which the body is propelled in some special direction. The attack is not accompanied by actual loss of consciousness or followed by coma. Its duration does not exceed that of an ordinary epileptic fit. According to some authors there is marked congestion of the face during the attack. These cases are known to be epileptic in nature by their associations as well as by the character of the attacks, the element of suddenness being very marked. In the same patient the attacks may be replaced by epileptic fits, or they may replace a true epilepsy with loss of consciousness. The actual movement varies in different cases. In some a rapid revolving of the body around its horizontal axis, in others a rotation in a large circle, etc., occurs. The highest expression of consciousness (perfect control over volitional efforts) is evidently lost, since the patient cannot prevent himself from performing these strange movements.

Strophanthus in Graves' Disease.—Dr. D. R. Brower, of St. Louis, recommends strophanthus in the treatment of Graves' disease, and he has administered it in three cases with benefit. In one case a man, aged 21, was cured in four weeks. Tincture of strophanthus was commenced in two-drop doses every six hours and gradually increased until ten drops were given. The pulse, which had been very rapid, fell to 85, and the exopthalmus and goitre also gradually disappeared. Dr. Brewer does not advise reliance solely upon strophanthus. Ordinary hygienic rules must be observed, such as the avoidance of fatigue, physical and mental excesses, a carefully regulated diet and attention to the bowels and skin. He prescribes also ordinary tonics and the application of galvanism to the cervical sympathetic nerves.

The Localisation of Tabes Dorsalis.—Jendrassik has recently reported two cases which support his belief in the cerebral origin of this disease, and concludes that his cases prove the existence of peculiar alterations in certain portions of the cerebral cortex, alike in histological character but different in seat from those found in dementia paralytica. He considers that the greater part of tabetic symptoms are due to cortical disease, and that the sclerosis of the posterior columns is to be considered as a degeneration secondary to the cerebral changes.

Paralysis "à Frigore."—The *Lancet*, Mar. 2, 1889, notes a paper read by M. Neumann on the part played by nervous predisposition in the etiology of facial paralysis *à frigore*. Neumann (in 1887) was the first to suggest that cases of facial paralysis attributed to exposure were not explained by this simple statement, but that there must be a nervous predisposition in the subject; cold acting as an adjutant, like traumatism, in the induct of hysterical contracture or in producing an attack of gout in the gouty subject. Hence he would banish paralysis *à frigore* from the catalogue of so-called ill effects. He made full enquiries into the antecedents of the subjects of facial paralysis and found that many were liable to chorea, migraine, convulsions, etc., and also that their relatives were frequently affected with neuroses.

Tabes Dorsalis and Exophthalmic Goitre.—Evidence exists, both clinical and experimental, that lesions about the restiform bodies may produce the tread of symptoms characteristic of Basedow's disease. In cases of the association of the two diseases, have the scleroses and degeneration on which the tabes depends exceeded their usual boundaries? *(Lancet.)*

A Case of Echolalia (Word Repetition).—Dr. Raymond relates the case of a woman of 74 who had an apoplectic stroke and was brought into the Lyons Hospital with right hemiplegia. She could not speak at all for a week or so after she recovered consciousness, but nearly complete capacity had returned at the end of a month, and then her peculiar symptom began to be noticed. She could not help repeating what was said to her or by persons speaking near her. In ordinary conversation she stammered and repeated her words, but could make herself understood, though with difficulty. When she repeated what other people had said, she spoke clearly; and on all occasions, whether speaking clearly or not, seemed perfectly satisfied with herself. She remained in this state about nine months, and died finally of pneumonia. A *post mortem* examination shewed a patch of yellow softening the size of an almond at the base of the third left-frontal convolution, and another at the anterior edge of the third left temporal at the border of the fissure of Sylvius. There were small vegetations on the mitral valves, and the hypothesis of embolism was considered the most probable.—*Lyons Méd.*, March 18th, 1888, p. 450. Reported in the *Practitioner*, June, 1888.

Unilateral Muscular Hypertrophy following Typhoid Fever.—M. Adolphe Lesage (*Revue de Méd.*, 1888, p 903) describes an interesting case in which muscular hypertrophy of one leg followed typhoid fever. Of late years it has been pointed out that occasionally acute muscular inflammation accompanies infectious fevers. When this has begun in the muscular fibres it usually ends in complete recovery, but when there is inflammation of the coats of the smaller arteries, a secondary muscular hypertrophy and fibrosis occurs, more frequently in the heart than elsewhere, and in such a case typhoid fever may start a chronic cardiac hypertrophy with fibrous infiltration. In Lesage's case, on the nineteenth day of the fever phlegmasia occurred in the left side, followed by considerable enlargement of the leg and thigh. The patient recovered from the fever, and the swelling of the left leg diminished but did not completely pass off. During the two years following this attack the left leg increased in size, the left calf being nearly two inches larger than the right, and the left thigh an inch and a half larger than its fellow. Sensation, the reflexes and the electrical reactions were unaffected. There were no signs of a peripheral neuritis. The diagnosis was that, together with the phlegmasia, an arteritis had been present, which lessened the calibre of the vessels and led to an anomaly of nutrition and an excess of fat infiltrating the muscles without notable degeneration of their fibres.

Epilepsy from Dental Irritation.—Dr. Brubaker, of Philadelphia, has collected sixteen cases in which epilepsy has depended upon the presence of carious teeth or abnormal states of the gums preventing the cutting of teeth. In all the cases the removal of the source of irritation was so immediately followed by a cessation from fits as to lead to the conclusion that this form of irritation is more productive of epilepsy than has hitherto been believed.

Iodoform in Tubercular Meningitis.—Dr. Daniel Brower (in the *Journal of the American Medical Association*, vol. x., p. 1) strongly recommends the treatment of tubercular meningitis by inunctions of iodoform and lanoline or vaseline—about one part of iodoform to five of the vehicle. An application of iodoform ointment is to be made at least twice daily to the scalp, the head being shaved for the purpose. The treatment should be commenced as early as possible.

Motor Ataxia in the Arms (*The Practitioner*).—Dr. Weir Mitchell has read before the Philadelphia Neurological Society the history of a case of motor ataxy confined to the arms. The patient, a doctor of medicine aged 55, observed in July, 1887, that his hand became unsteady in writing without true tremor, and that there was increasing numbness in the finger ends of both hands. There were no eye or bladder symptoms. In a short time the numbness appeared in the toes, and the optic discs commenced to shew grey degeneration. There was no static ataxia, and the knee jerk was not only not abolished but excessive. The upper limbs became very awkward in their movements, there being great want of co-ordination in every effort to make delicate adjustments, as when he attempted to touch his nose or ear with his eyes shut. He failed also to estimate weights by his upper extremities. The elbow jerk was lost on both sides and non-reinforcible by motion or sensation. Sexual power was lost, but there were no visceral crises.

True Agraphia. — (The *Practitioner*, June, 1888). — Prof. Charcot records the case of a woman aged 64 who had had, at the age of 44 in 1868, right hemiplegia with paralysis of the tongue and inability to write. Her speech and movements soon became normal; she could read easily and do anything she liked with her hands except write. She had no motor idea, so to speak, of letters. The remarkable fact throughout has been that during these last twenty years she has never recovered her capacity for writing. She is well educated, can read, and understands what she hears, and, until a second attack of hemiplegia in 1885, could speak. She can copy printed or written letters; but when she is set to write down what she has just been reading or hearing or saying, she cannot do it. She has the visual image of a word, the auditory image, the motor image for speech, but she has lost the mechanism by which a word is put into writing — the motor image for writing. This is true agraphy.

Chinese "*Nervelessness.*"—That China is, at least in some respects, the moral antipodes of America is shewn by a writer in the *North China Herald* of Shanghai. A Chinaman will write all day like an automaton; he will stand in one place for many hours and does not perceive the monotony. Chinese school-children will undergo an amount of confinement, unrelieved by recesses or changes of work, which would drive Western pupils to the verge of insanity.—*Boston Medical and Surgical Journal.*

REPORTS OF SOCIETIES.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH. BRITISH MEDICAL ASSOCIATION.

ANNUAL GENERAL MEETING.

The Annual General Meeting of the Branch was held in the Medical Institute on Thursday, June 20th, 1889.

Present, Dr. Thursfield, Mr. Lloyd-Owen, Mr. Lawson Tait, Mr. Pemberton, Dr. Wyer, Dr. Douglas, Mr. Barling, Mr. Bennett May, Mr. Manley, Dr. Simon, Mr. Priestley Smith, Dr. Rickards, Mr. Marsh, Mr. Harmar, Mr. Thomas, Dr. Savage, Mr. A. Freer, Dr. Strange, Mr. Garner, Mr. J. E. Thomson, Mr. J. W. Taylor, Dr. Rankin, Mr. R. Smith, Mr. Haslam, Dr. W. S. Nason, Mr. Wood White, Dr. Suckling, Mr. Vincent Jackson, Dr. Herbert Manley, Mr. Oakes, Dr. Saundby, and several visitors.

W. S. Manning, F.R.C.S.I., City Fever Hospital, and John Holmes, M.D., Southam, Warwickshire, were elected members.

It was moved by the President, seconded by Dr. Saundby, and resolved—

> "That this Meeting desires to express its regret at the death of Dr. Edward Dewes, a former President of this Branch, and to convey to Mrs. Dewes its sense of the loss she has sustained and its sympathy with her in her bereavement."

The Reports of the Council, Treasurer, and Pathological Section were received and adopted.

Some discussion took place on the payment of representatives in the Council of the Association, and on the motion of Dr. Thursfield, seconded by Mr. Marsh, the following resolution was unanimously agreed to:—

> "That the Representatives of this Branch in the Council of the Association be instructed to take action in the matter of the payment of the travelling expenses of the Branch Representatives incurred in attending the meetings of the Council, and endeavour to obtain a recommendation from the Council to the Annual Meeting that such expenses should be paid by the parent Association."

The usual formal votes of thanks to the various Officers of the Association having been passed, the President delivered his Inaugural Address (*vide* page 1).

The following were the Office-bearers elected:—President-Elect, Alfred Freer, Esq. (Stourbridge); Treasurer, Edwin Rickards, M.B.; Honorary Secretaries, Robert Saundby, M.D., and Jordan Lloyd, Esq.; Representatives of Branch in Council of Association, Hugh R. Ker, Esq., and Robert Saundby, M.D.; Representative on Parliamentary Bills Committee, T. W. Thursfield, M.D. Council—Country Members: Vincent Jackson, Esq. (Wolverhampton): J. Holmes Joy, M.D. (Tamworth); H. R. Ker, Esq. (Halesowen); Edgar Underhill, M.D. (Bromsgrove); John Manley, Esq. (West Bromwich); S. H. Agar, Esq. (Henley-in-Arden); W. Douglas, M.D. (Leamington); J. Fenn Clark, Esq. (Leamington). Town Members: T. H. Bartleet, Esq.; Bennett May, Esq.; C. W. Suckling, M.D; Priestley Smith, Esq.; F. Marsh, Esq.; Gilbert Barling, Esq.; Lawson Tait, Esq.; A. H. Carter, M.D.

ANNUAL DINNER.

The Annual Dinner was held at the Grand Hotel at six o'clock, the President, Mr. D. C. Lloyd-Owen, being supported by Prof. Gairdner, President of the Association; the Mayor of Birmingham: Dr. Bridgwater, President of the Council of the Association; Sir Walter Foster, M.P.; Mr. Ernest Hart, Mr. Fowke, Canon Bowlby, Surgeon-Major Emerson, Mr. Bartleet, Mr. Vincent Jackson, Mr. Garman, Dr. Rickards, Mr. Manley, Dr. Thursfield, Dr. Bridges, of the Local Government Board; Mr. Boldero, President of the Staffordshire Branch; and many other gentlemen.

Letters of apology were received from, among others, Dr. Holman, Treasurer of the Association: Judge Chalmers, the Town Clerk of Birmingham, Mr. Coroner Hawkes, Mr. Lawson Tait, and Dr. Carter.

After dinner the toast of "The Queen" was proposed by the President. Mr. Bartleet proposed the toast of "The British Medical Association." He said that he had been from his early days intimately associated with those who had founded this Association, which had taken its origin in Birmingham, and for many years had its head-quarters here. At his father's house he used to meet Falconer of Bath, Chadwick of Leeds, Husband of York, Dr. A. P. Stewart, and many others of the founders and fast friends of the Association. It was therefore a great pleasure to him to propose this toast, and to see here at the dinner the President of the Association, the

President of the Council, the Editor of the *Journal*, and the General Secretary—a gathering of administrative officers on a similar occasion which he was certain had never previously taken place in Birmingham, and he believed had never occurred at any other Branch dinner.—The toast was responded to by Professor Gairdner, who commenced by saying that his position reminded him of a saying of an old patient of his, who complained that his grandfather had drunk all the port, while *he* had the gout. He said that he was put forward to occupy the post of honour, while the whole burden and work of the Association fell upon other shoulders. From his position he had been able to observe the extraordinary devotion shewn by the administrative officers to the interests of the Association, and he felt that he was unfairly occupying the most prominent position in responding to this toast when those were present to whom the Association owed so much more. He recognised in the British Medical Association a great and powerful organisation occupying a unique position, as it was the only corporation which united the whole profession, not only here but all over the world.

Mr. Vincent Jackson proposed the toast of "The Mayor and Corporation of Birmingham," which was responded to by the Mayor, who spoke of the immense amount of gratuitous public work performed by the Medical Profession, and his amazement at the devotion displayed by the officers of the various medical charities in Birmingham to their humane and charitable duties.

The toast of "The Birmingham and Midland Counties Branch" was proposed by Dr. Bridgwater, the President of the Council of the Association, who referred to this Branch as the Mother Branch of the Association, and one to which he always looked for advice, encouragement, and sympathy. During those recent events which had to some extent troubled the Association in London, they had always been aided and supported by the assistance of their Birmingham colleagues. Birmingham had been very noteworthy by the men she had sent up to the Council, and no town perhaps had had more influence in the government of this great Association. He felt sure that the Birmingham and Midland Counties Branch had in no way degenerated from the past, and that its influence in the Council was as great now as it had ever been.—The toast was responded to by Mr. Alfred Freer, the President-elect, who thanked the members for the honour done him in electing him to be their future President.

The toast of "The Birmingham School of Medicine" was proposed by Professor Gairdner, who referred to his life-long friendships with the late Drs. Fleming and Heslop—two distinguished teachers of this school—and to the advantages derived from the connection of the School with Mason College.—The toast was responded to by Sir Walter Foster, who spoke of the improvement that during his recollection had taken place in the School, but regretted that while this improvement had taken place in teachers and students, it seemed to him that there was an increase in the lower kinds of medical practice in the district—that cheap dispensaries were increasing; and he begged his professional brethren to do all in their power to persuade men to give up lines of practice injurious to themselves and injurious to the body to which they belonged, and to root out the practice of covering unqualified practitioners.—Professor Heath briefly replied on behalf of Mason's College.

The toast of "The Visitors" was proposed by the President and responded to by Dr. Bridges, who referred to the magnificent workhouse infirmary lately opened in Birmingham as an example of the manner in which Birmingham took the lead in municipal and sanitary matters.—Mr. Ernest Hart, in reply, said that the *Journal* had been phenomenally successful beyond anything in medical journalism, its triumphs having been the triumphs of the Poor Law surgeon, the certifying factory surgeon, the prison surgeon, the army medical officer, and the medical officer of health. It was for them that he had worked; and, in doing this, he had sometimes to write things which were not palatable to those who had the control of the great corporations. He did not pretend never to have made mistakes. A great American Minister had said that the man who never made a mistake was one who had never done anything.

Dr. Saundby, in a few words, proposed the toast of "The President," to which Mr. Lloyd-Owen replied.

In the course of the evening a selection of music was given by Mr. Barling, Dr. Crooke, Mr. Crump, and Mr. Bennett, which added greatly to the pleasure of a most successful dinner.

REVIEWS.

(1) ELEMENTS OF HISTOLOGY.*

(2) A COURSE OF ELEMENTARY PRACTICAL HISTOLOGY.†

We welcome a new edition of Dr. Klein's useful manual of normal histology, in which numerous additions will be found both in the text and in the illustrations.

The former is fully up to date, and contains references to the recent investigations on the structure of striated muscular fibre, by Melland and Marshall in this country and by Rollet in Germany, whose views harmonise with the well-known classical descriptions of Bowman, Brücke, Cohnheim and Englemann, with which the author agrees.

The section on the structure of nerves, spinal cord and brain is worked thoroughly up to date, and includes the latest information concerning peripheral nerve terminations in epithelium, epidermis and muscle.

Heidenhain's investigations into the structure of salivary glands, and his more recent researches on the absorption of chyle by the mucous membrane of the small intestine, also receive notice.

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* Elements of Histology. By E. Klein, M.D., F.R.S. New and enlarged edition. London: Cassell and Co. 1889.

† A Course of Elementary Practical Histology. By William Fearnley. London: Macmillan and Co. 1888.

Regarding the illustrations, in addition to several new woodcuts, reproductions of excellent photomicrographs, by Mr. Andrew Pringle, have been introduced. They are some of the best specimens of this kind of work we have hitherto seen. Nevertheless, we think it will be some time before they supersede carefully executed drawings for teaching purposes.

Altogether, the book is well got up, and though somewhat enlarged, remains a capital handbook for students.

Mr. Fearnley's work is indeed a practical demonstration of the maxim, "Where there's a will there's a way." The "will" betokens a wonderful degree of energy; while the "way" in which it has been carried out is highly creditable to the author, who has found, *midst the engrossing cares of a general practice, leisure time* to compile a useful manual, which will be found an excellent practical companion to Dr. Klein's systematic compendium.

The book opens with a very good description of the microscope and how to use it. Amongst the instruments and lenses of foreign manufacture recommended to the student we miss the time-honoured name of Hartnack, with whose objectives it was at one time the fashion for most histologists to work. Microscopes and lenses of genuine Hartnack (Potsdam) manufacture are still to be had; and, so far as our experience goes, they are quite equal if not superior to some of those of foreign make specified in Mr. Fearnley's book. But we agree with him in being able to congratulate our own opticians on their efforts to compete with the foreigner in producing microscopes adapted for the needs of students.

The section devoted to the description of the apparatus and reagents requisite for histological work, and to the various methods employed in the technique of injecting, hardening, section cutting, staining and mounting, is very elaborate and complete, and quite up to date.

Regarding the composition of the gum and syrup solution used as a preservative and freezing fluid for blocks of hardened tissue intended for the freezing microtome, we think the author, after a fair trial, will find it advantageous to have the fluid made up in some definite proportions according to the texture of the tissue which it has to penetrate.

The statement, too, that all sections stained in hæmatoxylin or logwood ought to be mounted in Canada balsam and not in Farrant to be permanent, is one to which we must take exception. We would rather modify it by saying that if the sections be previously soaked for a short time in a dilute solution of osmic acid ($\frac{1}{5}$ to $\frac{1}{10}$ °/₀) they may be doubly stained in hæmatoxylin and picrocarmine and mounted in Farrant for years without detriment.

Part II. is a scheme for practical daily exercises constructed much on the same plan as that devised by Prof. Stirling in his "practical histology." The book is intended for those working either in a private laboratory of their own, or under the guidance of a teacher; and certainly in its description of the reagents and necessary apparatus and where to get them, it bears a very favourable comparison with the older manuals of Rutherford, Schäfer and Stirling. Mr. Fearnley duly acknowledges all sources to which he has been indebted for information in the compilation of his book. We can certainly recommend it as a safe and reliable guide; and its pages bear evidence that its author has practically tested the methods he describes.

THE BACTERIA IN ASIATIC CHOLERA.*

This is only a reprint of Dr. Klein's papers in the *Practitioner* published more than two years ago. All the world knows that Dr. Klein was sent to India to report on the supposed discovery of the cholera bacillus by Koch, and most of those who are interested in cholera felt very disappointed with the way he performed that duty. Since the admirable work of Macleod and Milles has been published in which Koch's observations are fully confirmed and pure cultivations of the comma bacillus have been shown capable of producing in pigs an intestinal affection completely resembling cholera Dr. Klein's criticisms are a little out of date, and this book has only a questionable historical value.

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* The Bacteria in Asiatic Cholera. By E. Klein, M.D., F.R.S. London: Macmillan and Co. 1889.

REPORTS FROM THE LABORATORY OF THE ROYAL COLLEGE OF PHYSICIANS, EDINBURGH.*

It is not perhaps generally known that two or three years ago the Royal College of Physicians of Edinburgh, at the instance of Dr. J. Batty Tuke, decided to equip a laboratory and appoint a superintendent. They chose a suitable house in Lauriston Place near the Infirmary, and appointed Dr. G. Sims Woodhead, one of the pathologists to the Royal Infirmary and assistant to the professor of pathology, to the post of superintendent. In addition to being a place where original research is encouraged, it affords scientific assistance to practitioners, by enabling them to get an opinion upon the histological or chemical nature of a tumour or secretion submitted by them to the superintendent; and this is done, we understand, without any fee. The present volume records a portion of the work done during the first year of the existence of the laboratory. No less than 167 specimens have been examined for individual members of the profession. But, in addition, some very important original work has been done, as is attested by these papers, among which we would mention that of Dr. Macleod and Mr. Milles on cholera, that of Dr. Bruce on absence of the corpus callosum, and Dr. Woodhead's paper on tabes mesenterica and pulmonary tuberculosis.

The Edinburgh College may well be satisfied with the result of its liberal venture. We have every confidence that the laboratory will become one of the most beneficial additions to the Edinburgh school of medicine.

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* Reports from the Laboratory of the Royal College of Physicians. Edinburgh. Edited by J. Batty Tuke, M.D., and G. Sims Woodhead, M.D. Vol. i. Edinburgh and London: Young J. Pentland. 1889.

LEPROSY AN IMPERIAL DANGER.*

THIS is a very good little book written with a very proper motive on a very important subject by a gentleman who, although not a member of the medical profession, possesses both the knowledge and the enthusiasm required for his task.

His purpose is to draw attention to the undoubted fact that leprosy is increasing, that it is invading, year by year, new territories, and that it is threatening to spread all over the globe in an epidemic wave. He adduces much evidence to prove that this dire disease is transmissible by contact and by careless vaccination, and that there are no climatic limits to its dominion. His practical suggestion is the formation of a British Leprosy Association with affiliated branches in all colonies and dependencies to collect information and to assist the Government in determining what sort of measures should be taken to oppose the spread of the disease.

The book is worth reading by all who practise in leprous countries as well as by those who are interested in public health. The author is certainly right in his warning that, although we enjoy in England immunity from this foul malady, if it gets introduced it will spread among the populations of our city slums just as it does elsewhere.

STUDIES IN CLINICAL MEDICINE.†

THIS is a new departure in British medical publications. The idea was suggested by Charcot's Policlinic Reports (not pol*y*clinic as Dr. Bramwell writes it), and Dr. Bramwell's intention is to publish a full stenographic report of his examination of outpatients and his remarks, illustrating them when necessary by wood cuts and even coloured drawings. The scheme is a bold one, and if a proper supply of good material can be obtained and the high standard of the present number maintained this publication will be a great success; it is however a great tax upon one man and upon the resources of the small out-patient department of the Edinburgh Royal Infirmary.

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*Leprosy an Imperial Danger. By H. P. Wright, M.A. London : J. and A. Churchill.

† Studies in Clinical Medicine. Vol. I. No. I. By Byrom Bramwell. M.D. Edinburgh : Young J. Pentland.

THE VOICE AND ITS TRAINING.*

Mr. C. Lunn read a paper at the Annual Meeting of the National Society of Professional Musicians at Cambridge, in January last, and this pamphlet gives that paper to the outside world. Mr. Lunn is known amongst us as a champion with many adversaries. His paper summarises and enforces the conclusions he has so long and so courageously advocated. It would be unfair to charge him with innovation; he lays no claim to originality. He claims, however, with all the ardour of a disciple, to restore the neglected system of the old Italian school of singers. He takes for granted that the old masters of that land of song knew how to sing and how to teach. He was trained under them; and what they taught empirically, with the ease of instinct, he professes to hand on to another generation and to defend on physiological grounds. At the outset he lays down the lines of the method of the old school. They may be reduced to these points: Correct inflation of the chest *(the physical force)*, correct enunciation *(organic production)*, independence of vocal sound as contrasted with or modified by the will or by consonants *(the effect, or pure sound)*. These are expanded into six definite rules, which he takes separately and explains with considerable depth, precision and power, and illustrates with fulness and point.

His general argument may be stated in these terms: The human voice is a physiological organ which produces sound on the same principle and under the same conditions *(mutatis mutandis)* as sound under purely physical conditions is produced. Any method of sound-production by voice which fails to realise any of these physical conditions is essentially false production. Now accurate analysis shows that the rules and practice of the old masters were nothing more than the unconscious and almost instinctive realisation of these physical conditions in the vocal organ. Their system therefore is right, and the only one which can be accepted.

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* The Voice and its Training. By Chas. Lunn. Derby: P. B. Chadfield. 1889.

This closely reasoned pamphlet is not easy reading. But to those who will not only read but study it with that care which the subject demands, the rules and their development and defence will prove exceedingly helpful and suggestive. We do not doubt that Mr. Lunn is right in his views and contentions; we wish him all success in his polemic.

THE INSANE IN FOREIGN COUNTRIES.*

This is one of a class of books which is perhaps too large; it is written by an intelligent respectable gentleman with leisure and means who has made a tour of the principal countries of Europe where he has visited some of the chief hospitals and asylums for the insane, and now publishes an account of what he saw and was told, together with some information on the state of the law with regard to lunatics in each country. The book is illustrated with a few plates which are apparently more for ornament than use; it is handsomely printed and neatly bound, but can scarcely be regarded as of any serious value as a contribution to medical literature.

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* The Insane in Foreign Countries. By William P. Letchworth, President of the New York State Board of Charities. New York and London.

TRANSACTIONS OF THE ROYAL ACADEMY OF MEDICINE IN IRELAND.*

This volume of "Transactions" is fully equal to its predecessors. It contains numerous papers on subjects in all departments of medical science, which are classified under the various headings of Medicine, Surgery, Pathology, &c. The book is well printed, and reflects great credit upon the editor.

A TEXT-BOOK OF HUMAN PHYSIOLOGY.†

The author of this book starts with the excellent intention (according to the Preface) "to give concise and connected statements of well-established facts in such a form that they can easily be acquired by students, and in language that can not be misunderstood." Whether he has succeeded in carrying out his intention is, however, a question on which there must be grave doubt.

Turning a few pages from the beginning of the book, we come upon a description of the coagulation of blood which is so poor in information and so miserably expressed that we wonder whether a student could gain any notion whatever from reading it. There is a *sloppiness* about it only worthy to be compared with that of third-rate examination answers.

Hoping for better things, we turn a little further on to the chapters treating of the heart and blood-vessels. Here, in addition to the faults mentioned above, we even find a want of appreciation of elementary physical laws. Thus, it is stated that if the heart be listened to through a folded handkerchief, or if the stethoscope be applied at a little distance from the point where the first sound is heard with its maximum intensity, this sound "loses the quality of impulsion and presents a well-marked valvular quality." In answer to this it may be said that a moderate knowledge of the phenomena of conduction of sound would shew that the valvular sound would be the first to disappear, while the sound of the impulse would be carried further. Again, it is here assumed that the muscle sound of the heart is similar to that produced by "any large muscle" during its contraction, whereas there are well-known and palpable differences between them.

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* Transactions of the Royal Academy of Medicine in Ireland. Vol. vi. Edited by William Thomson, M.A., F.R.C.S. Dublin: Fannin and Co. 1888.

† A Text-Book of Human Physiology. By Austin Flint, M.D., &c. Illustrated. Fourth edition, 1888. New York: D. Appleton and Co.; London: H. K. Lewis.

The discussion of the nervous mechanism of the circulation is most meagre; and there is no reference, here or in other parts of the book, to the most important work of the day—Gaskell's "Investigation into the Innervation of the Viscera."

It would be wearisome to multiply instances of the incompetency of the work; for in reading through it one feels it to be a wilderness of common-place in which it seems impossible to find any oasis. One of the author's particular faults should, however, be mentioned, namely, his love of awkward and affected words: for example, he constantly uses "disassimilation"—one of the worst words with which physiologists have clogged their science, and only equalled by such as "anabolic" and "katabolic." If such a work as this is anywhere accepted as a text-book it speaks ill for the condition of physiological teaching in that country. Indeed, when a truly scientific text-book like Foster's is within reach there should be no chance for a work so lengthy and yet so trivial as this.

Miscellany.

AN UNEXPECTED DENOUEMENT.—When the Earl of —— was Governor-General of India he had with him his little daughter, a girl of eleven years, who already shewed considerable literary tendencies, which her father was wont to subject to rather severe criticism and emendation not altogether to her satisfaction. One day Lord —— having suggested that she should write a play, she objected that he altered what she wrote so much that she could not feel it was her own. "Very well," said his lordship, "you shall do it yourself, and act it: you can ask your own friends, and I shall know nothing about it till the curtain goes up." In due time the piece was written, and the drawing-room of Government House was crowded one afternoon to see the play. The subject was not very original. In Act I. two unhappy lovers are separated for want of money, and the youth goes forth to conquer fame and fortune. Between Acts I. and II. eight years are supposed to have elapsed. In Act II. the lover returns, having won both, to place them at the feet of his mistress. But here matters took an unlooked for turn. "For thee, Angelina," says Edwin, "I have laboured; for thee I have achieved fame; for thee I have won fortune." *Angelina:* "I have not been idle, Edwin; behold the labour of my past years." *(Rings bell. Enter Nurse with seven small children! Tableau!)*

New Books, etc., Received.

Forty-sixth Report of the Managers of the State Lunatic Asylum at Utica, Albany. 1889.

Strathpeffer Spa: its Climate and Waters. By FORTESCUE FOX, M.D. London: H. K. Lewis. 1889.

The Mechanism of the Circulation of the Blood through Organically Diseased Hearts. By HERBERT DAVIES, M.D. Edited by Arthur Temple Davies, B.A., M.B., etc. London: H. K. Lewis. 1889.

Tooth Extraction: a Manual. By JOHN GORHAM. Third edition. London: H. K. Lewis. 1889.

De la Lobéline dans la Thérapeutique de l'Asthme. Par le Dr. SILVA NUNOS. Rio de Janeiro. 1889.

The Power of the Will. By TOM ROBINSON, M.D. London: Gilbert and Rivington. 1889.

A Résumé of Experience at the Aural Clinique of Prof. Hermann Schwartze in Halle. By CHARLES H. MAY, M.D. Reprinted from the *New York Med. Journal* for May 25th. 1889.

Scarlatinous Otitis. By CHARLES H. MAY, M.D. Reprinted from the American Journal of Obstetrics.

A Clinical Study of Alopecia Areata. By L. DUNCAN BULKLEY, A.M., M.D. Reprinted from the New York Med. Record.

On the Value of Repeated Doses of Arsenic. The same. Reprinted from the New York Med. Journal.

On some Unusual Methods of Acquiring Syphilis. The same. Reprinted from the Medical News.

Annual of the Universal Medical Sciences. Edited by CHARLES E. SAJOUS, M.D. Philadelphia: F. A. Davis.

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THE
BIRMINGHAM MEDICAL REVIEW.
AUGUST, 1889.

ORIGINAL COMMUNICATIONS.

PURPURA: A CLINICAL STUDY.*

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.
PHYSICIAN TO THE GENERAL HOSPITAL, CONSULTING PHYSICIAN TO THE EYE HOSPITAL, THE HOSPITAL FOR DISEASES OF WOMEN, ETC.

DURING the summer of last year a succession of cases of purpura, chiefly of the hæmorrhagic form, were admitted into the General Hospital, and, with only one exception, they were all under my care. As I had previously only met with the disease in isolated examples, this unusual opportunity of observing a series of cases was regarded with keen interest by myself and my assistants.

Purpura is the name given to an eruption of hæmorrhagic extravasations into the substance of the skin. If the spots are rounded they are called *petechiæ;* if elongated, *vibices.*

Etiology.—These eruptions occur in many diseases in consequence of some pathological alteration in the blood or tissues induced by the primary disease; *e.g.*: (1) In eruptive fevers—plague, typhus, measles, scarlatina, and small-pox; (2) in various blood disorders—hæmophilia, scorbutus, pernicious anæmia, and leucocythæmia; (3) in pregnancy; (4) in Bright's disease and heart and liver diseases; (5) in Hodgkin's disease and in connection with some rapidly diffused sarcomata (Fagge); (6) in syphilis; (7) in various diseases of the brain, spinal cord, and peripheral nerves; (8) from the administration of various drugs—*e.g.*, phosphorus, potassium; (9) in ulcerative endocarditis; (10) in connection with certain erythematous affections of the skin, erythema nodosum, urticaria pigmentosa, etc.; (11) finally, they may occur in persons in good health, without previous illness, and especially in aged persons and young children.

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* Read before the Midland Medical Society, October, 1888.

Classification.—The following classification was put forward by Hillier and Tilbury Fox (Reynolds' System of Medicine, Vol. I., p. 790):—1. Purpura simplex; 2, Purpura hæmorrhagica; 3, Purpura urticans; 4, Purpura senilis; 5, Purpura rheumatica.

That this classification is imperfect is shewn by the previous enumeration; it is neither broad enough nor detailed enough to take in all forms. To me it seems better to retain the old classification: 1, Purpura simplex; 2, Purpura hæmorrhagica; keeping in one class all cases in which there is only an eruption and putting in the other all those in which the eruption is associated with hæmorrhage from one or other of the mucous surfaces, and not attempting to classify as purpuras those numerous cases in which hæmorrhages into the skin complicate other eruptive diseases.

Purpura hæmorrhagica is only purpura in its more intense form, wherein the hæmorrhagic dyscrasia has reached its highest point, and where the eruption is accompanied by *external* hæmorrhage. The seat of this hæmorrhage is most commonly the gums, or nasal lining membrane, less commonly that of the stomach or bowel, the urinary passages, the ears, or the lungs. *Internal* hæmorrhage takes place beneath any of the limiting membranes, serous or mucous, or into the substance of any organ or tissue containing blood vessels.

Post mortem examination has revealed hæmorrhages in the brain, retina, tonsils, lungs, spleen, heart, testes, medulla of long bones, beneath the pleura, pericardium, periosteum of ribs, parietal peritoneum, mucous membrane of mouth, stomach, intestines, and bladder.

The *onset* of the disease is often preceded by debility, or anæmia, but the previous state of health may not have presented any notable departure from its usual standard. In certain individuals there is evidence of a previous tendency to bleed or bruise easily, which is illustrated by the following cases.

Case 1.—*Purpura: Bleeding from Gums.*—Ann Louisa E., 12, was admitted as an in-patient on July 10th, 1888. Her sister was brought up on June 3rd with a well-marked purpuric eruption, and on examination it was found that she also was affected in the same manner.

Family History.—Father suffers from rheumatism; mother healthy; do not bleed; eldest child died at six months, not from bleeding; mother no miscarriages; five other children alive—all these are healthy except the youngest, who, as mentioned above, was an in-patient under Dr. Wade, with purpura hæmorrhagica; the rest of the children are healthy; no purpuric spots, but when cut or scratched the mother says they bleed easily; they all bruise easily. No history of bleeding in the family, except that of the paternal grandmother, who often suffers from epistaxis.

Previous History.—Had scarlet fever and measles before three years of age, and German measles two years ago. About three years ago began to complain of pain in left side, and was giddy at times, so that on three or four occasions she fell down. Has had good food, including potatoes almost every day.

History of Present Illness.—Eighteen months ago she had a tooth drawn out. This was followed by considerable hæmorrhage, so that the socket had on the next day to be plugged. For the last year she has bled a little at the gums at night, so that her lips have been covered with dry blood in a morning. No epistaxis; no hæmaturia; no blood in motions. Mother has never noticed any purpuric spots on child; but when brought up to hospital five weeks ago there were some petechial purpuric spots over neck, shoulders, and arms about the size of a pin's head. After this, while under observation, no more spots appeared and the bleeding from gums was less. She was treated as an out-patient with ergotin ½gr. twice a day.

Present Condition.—On July 10th she was admitted, and it was then noted she was a fairly healthy looking girl, not anæmic. There were a few small purpuric spots on neck, shoulders, chest, arms, and legs; pulse 84, a little irregular; a pulmonary murmur heard over the pulmonary area; breath sounds normal; liver dulness an inch below costal arch; spleen could be palpated; urine 1022, amber coloured, slight flocculent deposit; a faint opalescence on boiling with acetic acid, no casts, no blood; temperature normal; no blood in stools. Her mother took the child out on July 13th, 1888.

Case 2.—*Pupura Hæmorrhagica ; Epistaxis ; Heart Failure ; Death.*

William H. B., ætat 16, brass filer, was admitted into the General Hospital on May 1st, 1888, complaining of bleeding from the gums, which began three weeks previously. He had previously felt very weak and easily fatigued. The bleeding was a continuous oozing, requiring him to wipe his mouth frequently during the day, while at night his bed linen was stained with blood. Eating made the gums bleed worse, the least touch setting them bleeding. During this period he noticed that the slightest blow on the skin caused bruising. He is said to have always "bruised very easily." He has never had any serious illness, but five years ago he had an abscess of the jaw, which was "bad for two years." He was well fed, and had vegetables on most days. His father was a painter, he died fourteen years ago, and suffered from drop wrist and colic. His mother is living, but is subject to bronchitis. He has no living brothers or sisters, one child having been born dead, and the other dying at the age of three months. The patient was a pale lad, small for his age, and presenting on his forehead a large greenish ecchymosis, several square inches in extent, stated to have been caused by a blow. All over his body, arms, legs, and neck, were numerous irregular purpuric spots, varying in size from a pin's head to an inch square, and in colour, being variously red, yellow, and green. On the shins were two extensive green ecchymoses, which he attributed to blows got at football. He stated that a few drops of blood had at times come from his nose. T., 100° F., P. 126.

His gums were smeared over with partially-clotted blood, but were pale, not spongy. His tongue was red and moist, appetite good, bowels regular, liver not enlarged. With the exception of some harsh breathing at the bases of the lungs and a systolic hæmic murmur at the base of the heart, the thoracic organs were normal. The urine was abundant, sp. gr. 1012, acid, and contained neither albumen nor blood. He was ordered milk diet with lemon juice, and turpentine in the form of drachm doses of the confectio terebinthinæ (equivalent to 15m. of oil of turpentine), rubbed up with peppermint water, thrice daily.

May 3rd. Patient seemed going on well. Temperature 98° F. He was hungry, so was ordered mutton diet. There was still some oozing from the gums, but no fresh spots on the skin.

May 4th. Temperature, M. 99· V. 101·2 F.

May 5th. Temperature, M. 99·2 V. 101 F.

May 6th. Temperature, M. 100·5 V. 99·5 F.

May 7th. Temperature, M. 100 V. 101. F. His bowels were only open once during these four days, so he was ordered a dose of Mistura alba.

May 8th. Temperature, M. 100 V. 102·5 F. As the oozing continued, the confection was ordered to be specially prepared with French turpentine.

May 9th. Temperature, M. 99 V. 104 F. During the morning there was some epistaxis, and in the afternoon at 4-15 the nurse noticed him lying asleep with blood trickling from his nose. I saw him at 4-45, when he was blanched; pulse 150, R. 24. Blood was running in a thin pale stream from the left nostril. A syringeful of hazeline (hamamelis) was injected into the nostril without effect, and a pledget of lint soaked in hazeline introduced into the nostril seemed to increase the hæmorrhage. It was replaced by lint soaked in perchloride of iron, after which there was no more external bleeding; but at 5-15 a copious tarry stool was passed in the bed. Twenty grains of ergotin were dissolved in thirty minims of water, and five minims of this solution were injected under the skin and directed to be repeated if the bleeding recurred. A mixture containing ten minims of the tincture of the perchloride of iron was ordered to be given every hour, and drachm doses of the Mistura sp. vini Gallici every half-hour; milk diet.

May 10th. Temperature, M. 100·5, V. 104. There was no more bleeding after the ergotin. He slept pretty well through the night, and continued to take the remedies ordered above. At 6.30 p.m. he was very blanched, pulse 150. 11 p.m. blood began to ooze from his mouth, and he appeared to swallow blood. The ergotin injection was repeated.

May 11th. Temperature, M. 102, V. 105 F. He passed a very fair night; no more bleeding. There were several fresh red purpuric spots on the legs, feet, and insides of thighs, but no fresh ecchymoses.

May 12th. Temperature, M. 100, V. 101 F. He had a quiet night, but at 4 a.m. he seemed unconscious, afterwards getting better. Pulse 126. During the night his mother removed clots of blood from his mouth, and there was a little oozing of blood from his gums. He passed two small black motions under him. Some difficulty was found in getting him to take his medicine and brandy mixture. There was a little more epistaxis in the evening.

May 13th. Temperature, M. 100, V. 101 F. He lay for the most part unconscious. Pulse 150; resp. 32. The same difficulty was experienced in getting him to take medicine, &c. Passed everything under him. A little continuous oozing from the nose went on all day. Towards evening he took milk more readily.

May 14th. Temperature, M. 99·5 F.; pulse 160; resp. 40. Patient unconscious; very pale. He had not spoken since the previous morning. Swallowed a little milk, but was plainly dying when seen at the morning visit. He died soon after, at 11 a.m.

The *post-mortem* examination was made the following day by Dr. G. F. Crooke, to whom I am indebted for the following notes:—"Subject extremely anæmic and emaciated; purpuric petechiæ and vibices scattered over the skin of trunk and limbs; the subcutaneous extravasations over bony prominences—*e.g.*, ant. sup. spine of ileum and over tibiæ—are larger in extent and resemble bruises; brown crusted sordes on lips and about the nose; gums and oral mucous membrane, as well as the conjunctivæ, quite white from anæmia. Three ounces of blood-stained serum in the pericardial sac, and eight ounces in each pleural cavity. The intestines look bluish black, from distension with tarry grumous liquid fæces.

Heart weighs 7 oz.; no valve lesions; spots and patches of sub-pericardial and sub-endocardial hæmorrhage; heart muscle generally of a pale yellowish white colour, except the peripheral layer, which is quite hæmorrhargic; microscopical examination shews most intense fatty degeneration of the muscular fibre.

Both lungs very anæmic, with sub-pleural hæmorrhages in both.

Spleen weighs 2 oz.; anæmic.

Kidneys weigh 6 oz., and are very anæmic.

Liver weighs 32 oz.; anæmic, soft, and flabby, of a light fawn colour throughout. Scattered here and there over the surface, as well as in the substance of the organ, are small, circular, opaque greyish spots, from one-twentieth to one-eighth of an inch in diameter, formed of liver tissue breaking down to form small cysts. Under the microscope these areas are seen to be foci of necrosis, the liver cells undergoing fatty degeneration and breaking down into a granular detritus, while the intercellular spaces are occupied by large, short, thick bacilli, congregated here and there into colonies, at the margins of which mobile bacilli are observed. Some are constricted in the middle, resembling the larger kind of *bacterium termo;* others preserve their thick, short, rod-like form, and all stain well with gentian violet after Gram's method. In their general character the organisms resemble the bacilli sapro genes described by Rosenbach in his monograph. Cultivations in nutrient gelatine were made from the liver."

Case 3.—*Purpura ; Hæmaturia (?) ; Congenital Syphilis.*

The alleged predisposing influence of congenital constitutional syphilis receives some support from the following case, though it may be only a coincidence.

Clarence M——, ætat 17, was admitted April 30th, 1888, with a purpuric rash on his legs which had existed for four days. About three weeks ago he took cold and had a pain in his side, but he was not confined to his bed; this got better; but on the night of the 26th the rash broke out; on the 25th and 26th his urine was very red. Mother subject to "rheumatics," father "has a pleurisy now and then;" one sister died aged seven months; one brother alive and healthy. Patient had "the fever" four years ago, after which his eyes were bad and he attended at the Eye Hospital; he had never had rheumatism. He was a fairly healthy-looking lad with characteristic peg-shaped and notched incisor teeth. Over the lower part of both legs there was a large irregular area, slightly elevated, red and not affected by pressure, most marked on the front and sides. Within these areas were islands of normal skin, and the diffused redness was evidently caused by the fusion of smaller areas, as outside these large patches scattered on the legs and thighs were smaller spots slightly elevated and circular in shape. Over both arms there was some erythematous mottling. There was swelling, tenderness and pain on movement in the distal joint of one index finger. There were no abnormal physical signs, except a little harsh inspiration at one apex. The bowels were open and the motions free from blood. The urine was acid, sp. gr. 1016, containing a trace of albumen but no blood. He was treated with iron and arsenic; the rash faded gradually; the index finger got well and he was discharged cured on May 10th, eleven days after admission.

Case 4.—*Chronic Lithæmic Nephritis; Purpura Hæmorrhagica; Death.*

There can be little doubt that chronic Bright's disease is a common predisposing cause, though such severe examples as the following case are rare.

Ann D., ætat 64, was admitted into the General Hospital on December 13th, 1886, complaining of an eruption on her body and of feeling ill and feverish; she said that three weeks ago brown patches came on her face and arms which "all at once" became scaly and peeled off "like shavings," the scales being renewed. This rash spread all over her body. In the second week "blisters" rose all over her body, but principally on her hands; these broke and became red and sore; her nose bled and blood came from her mouth; her gums were very sore; her water was bloody and her motions dark; there was discharge from both her ears. The eruption was not painful except from the soreness of the blistered places. She had been subject to headache, but since the eruption she had been free from it. There was no history of any previous eruption, or of syphilis; she had rheumatic fever when a child. Her father and mother died early, she thought of "fever;" her only sister was alive and well.

On admission, her face was covered with crusts, like eczema, with blood dried in them. Her gums were covered with clotted blood, and her tongue, which had small ulcers on its lower surface, was coated with blood. The whole of the body was covered with a hæmorrhagic eruption the size of a pin's head or less; in some places there were patches of greater size, as if the hæmorrhages had run together. There were remains of blisters the size of threepenny pieces on the arms, which were covered with scaly scabs. There were no large ecchymoses, but below the left mamma there were a few bluish-red spots about ⅛ of an inch in diameter. In the flexures of the elbows, knees, groins, and axillæ, as well as on the shoulders and buttocks, the skin was denuded of epidermis and bled freely. There was a very offensive smell from the patient. On the 15th the epidermis of the sides and soles of the feet came away leaving raw bleeding surfaces. On the 16th she rapidly became worse and died.

Abstract of Post-mortem Report on Ann D. Purpura hæmorrhagica. Death December 16th; necropsy 17th.

Entire body covered to a greater or less extent with small round purpuric spots, or large, irregular ecchymoses, accompanied with denudation of the epithelium, and in some places actual erosion or ulceration of the surfaces. Face covered with a mixture of dark and bright red spots. Gums eroded; no hæmorrhage into the tissue.

Brain: Basilar artery, atheromatous in places, vessels in pons and medulla dilated; brain otherwise normal; no hæmorrhages; no hæmorrhagic effusion into pleural cavities, but beneath the pleural covering on the diaphragm are several ecchymoses; lungs normal.

Heart, 11 oz.; hæmorrhagic suffusion into the cellular tissue around the great vessels; texture of muscle very soft, easily breaking down; valves healthy, except aortic cusp of mitral, which contained a patch of atheroma; no sub-pericardial or sub-endocardial hæmorrhages; aorta slightly atheromatous.

Liver, 3 lbs. 8 oz.; soft and congested; distinctly fatty.

Spleen, 2 oz., normal. *Kidneys*, 9 oz., slightly granular; cortex atrophic in parts. *Intestines*, hæmorrhage into the coats of the first part of the ascending colon; hæmorrhage into the substance of the right psoas and iliacus muscle, but in no other muscles so far as examined.

In a case recorded by Sir Walter Foster the outbreak of the disease followed a chill caught by running out in the snow. The case was peculiar in other respects, the onset being marked by an epileptic fit, which was followed by others.

Pathology.—In the absence of definite facts various theories have been started to account for this disease. We may take account of four of these—(1) Hæmic, (2) toxic, (3) mechanical, (4) neurotic. The hæmic theory starts with the undoubted fact that cutaneous and other hæmorrhages are common in pernicious anæmia, leucocythæmia, scurvy, &c.

Case 5.—*Anæmia; Purpura Hæmorrhagica.*—

In many cases of purpura, anæmia undoubtedly exists, as in this example.

Florence M., ætat 17, was admitted into the hospital on June 1st, 1888, complaining of bleeding from the nose, which had lasted six hours. She came in under Mr. Chavasse, but on the 3rd she was transferred to my care. Her parents were both rheumatic, and the father was subject to epistaxis. The only other child, a boy, was not liable to bleeding. There was no further history of bleeding in the family. Patient had had measles and scarlatina. She menstruated for the first time at the end of April, and was expecting to be unwell again when the nose-bleeding came on. This was the fourth attack of epistaxis she had had in two years, though none were so bad as this. Soon after admission the anterior nares were plugged and an ice bag applied over the frontal region. The hæmorrhage continued through the night; a plug soaked with alum was introduced into the nares, and the feet put in hot water. Tr. ferri perchlor., in half-drachm doses, was ordered three times a day. In the afternoon (June 2nd) purpuric spots were found on the feet and body, and the bleeding stopped. When seen by me at 1 p.m. on June 3rd she was very blanched, and had recently vomited about a pint of blood clot. She was ordered ergotin, gr. iij., *sub cute statim.* In the course of the afternoon she vomited about six ounces more altered blood clot, and at 4-30 gr. iss. more of ergotin were injected.

June 4th. No bleeding had recurred. A tarry stool had passed that morning. There were a number of new purpuric spots on the backs of the feet, the outsides of the legs and thighs; a group was on the left shoulder, and another on the epigastrium; but all the spots were quite small, like flea-bites. Tongue dry and brown; skin very pale; cheeks slightly flushed; pulse 144, resp. 80, temp. 99.6. She complained very much of headache.

Examination of Blood.—Red corpuscles pale, normal shape, reduced to 40 per cent.; white corpuscles increased 1 to 20. Hæmoglobin under 30 per cent. Blood coagulated so rapidly that these results were only approximately correct. Ergotin, gr. iij., injected at 11-30 a.m. At night the temperature rose to 102·8.

June 5th. Has passed a fair night; another tarry stool; no more hæmorrhage. Temperature at 8 p.m. 104°, pulse 144. Ergotin, gr. iij., injected at 2 p.m., and as much more by the mouth at bed-time.

June 6th. No more hæmorrhage; tongue still brown in centre. A group of spots not previously noted was observed on the inside of the left leg. On ophthalmoscopic examination, both fundi were pale; no hæmorrhages; media clear. A fresh attempt to enumerate the red corpuscles failed, from their tendency to adhere together in clumps; white corpuscles were increased, and red diminished; there were also present a number of small spherical and rod-shaped bodies. An attempt at cultivation gave negative results. After this the patient had no fresh hæmorrhages or spots. The ergotin was stopped, and she took the tinct. ferri perchlor., m. x., every two hours. The temperature was quite normal after the 9th.

On the 14th the hæmoglobin was estimated to be 25 per cent., and on the day of her discharge this had risen to 30 per cent. She went out looking well, but still anæmic.

Case 6.—*Purpura Hæmorrhagica; Hæmaturia; Recovery.* In other cases there may be no anæmia or predisposition to bruise or bleed, or any definite etiological fact to be laid hold of This is illustrated in this case of purpura, with severe hæmaturia, in an otherwise perfectly healthy child.

Harold N., ætat 3, admitted into Hospital May 27th, 1888, with purpuric rash and hæmaturia. He came of a healthy family with no evident tendency to rheumatism, hæmorrhage or bruising. A year ago he had measles but had been quite well since. He had never previously had any spots on his skin, nor had his mother noticed that he bruised easily, or had ever passed blood before in his urine; he had been well fed, mostly on bread, pudding and potatoes with green vegetables about twice a week, but not much meat. For some time he had had a little cough in the morning. Six days before admission he seemed ill and did not play as usual; this continued all the week, and on the day before admission his mother noticed when washing him that there were a few spots on his skin which she took for flea bites. In the afternoon he began to pass blood in his urine which was quite red; at night there were no more spots, but on the morning of admission she noticed spots all over his body and limbs, and his urine was still bloody. There had been no nose-bleeding, but on two mornings there was a thin line of dried blood on his lips. The motions had not been black or mixed with blood.

Patient was a well-nourished, rosy-cheeked, well-cared-for child. The spots varied in size from half an inch in diameter down to pins' heads, and were circular in shape and of a purple colour; they were most numerous on the right side of the abdomen, but were present more or less over the entire surface. There were two marks like bruises on the back. A little patch of dried blood was on the upper lip. The tongue was pale, bowels open, motions free from blood; temp. 99°, pulse 112, r. 28. There were a few râles and rhonchi over the chest and a little cough. The urine passed soon after admission was bright red in colour, and looked like pure blood; it was acid, and under the microscope there were numerous blood corpuscles. The blood taken by puncture from the skin contained a normal number of hæmocytes, but the hæmoglobin was reduced to 40 per cent. At noon he was given a draught containing half an ounce of turpentine and half an ounce of castor oil; he vomited a little at 3 p.m., and his bowels were open at night; the motion was free from blood. The next day the hæmaturia was quite as great.

May 29th.—Hæmaturia persisting: still blood on lips in morning; a fresh crop of spots noted on the left side of the body. At 11.45 a.m. he had ergotin, gr. j. subcutaneously. Blood again examined, and found to contain 120 per cent. of red corpuscles; from one to three leucocytes in the field at once In the evening, as the hæmaturia was unchecked, the injection of ergotin was repeated. At 9 p.m. he vomited and passed more bloody urine. His temperature ran up to 100·6, p. 144, r. 30, and he complained of thirst and cough. After midnight he slept well, and his temperature came down. The next morning (May 30th) the urine was only smoky. On the 27th Dr. Crooke examined the blood for micro-organisms, and attempted to make a gelatine cultivation, but the results were negative. There was no enlargement of the liver or spleen The ergotin was repeated, as the urine continued to be smoky, till late in the evening, when it was free from blood. After this date (May 31st) there was no more hæmaturia, but a few fresh spots were noted on June 2nd, and on the same day there was slight epistaxis, the amount of blood lost not exceeding one drachm. The injections of ergotin were stopped on June 5th, and the same quantity, on pain, being given by the mouth for two days longer. He was then ordered Parrish's syrup, and on the 11th was made an out-patient, but remained quite well and was discharged.

The most contradictory statements have been made as to the proportion of fibrine present in the blood in this disease:—

Routier	...	0·905	parts	per thousand.
Garrod	...	5·000	,,	,,
Frick	...	4·000	,,	,,
Thomson	...	2·000	,,	,,

As the last of these corresponds to the normal estimate, it is plain that there is not much support to the theory that there is actual deficiency of fibrine. In the case of the girl Florence M. the rapid formation of microscopic coagula was especially noted. Up to the present no satisfactory evidence of the nature of the hæmic change has been put forward.

The *Toxic* theory is very closely allied to the foregoing. It is based upon the facts that certain drugs and poisons, such as iodide of potash, phosphorous, the poison of snakes and of yellow fever, typhus fever, etc., are capable of producing purpuric eruptions and hæmorrhages. While the former theory supposed that something was taken from the blood, this implies the addition of something. Such a poison might clearly be produced by a pathogenic organism, and some researches have been made on this point.

In 1881 Ceci, of Prague, found in the blood of a case of malignant purpura an organism which he named *monas hæmorrhagicum.* He stated that when cultivated and injected into the veins of animals it caused hæmorrhages. These interesting statements have not so far been confirmed.

Balzer found micrococci in blood taken from the finger, and after death in the tissues, of a case of purpura.

In 1883 W. Russell asked Watson Cheyne to examine the blood and tissues of a case in which the capillaries of the heart were found to be stuffed with a *bacillus* measuring $\frac{1}{7790}$ in. in length and $\frac{1}{20000}$ in. in breadth and containing spores, generally two to each rod. In another case Cheyne found the capillaries plugged with micro-organisms, but this time they were *streptococci,* not bacilli.

Dr. Crooke, pathologist to the General Hospital, examined the blood of all my cases by the microscope and by cultivation, with only negative results, while he regarded the organisms found by him in the tissues of William H. as probably only putrefactive bacteria.

Interesting and suggestive as is this line of research, it cannot be affirmed that up to the present any facts have been elicited which throw light upon the etiology of the disease.

The *mechanical* theory assumes the existence of some structural alteration in the walls of the vessels permitting the escape of blood. Wilson Fox described a hyaline or lardaceous degeneration of the vessels in one case; hyperplastic endarteritis has been found by Hayem on one occasion, but was not present in another case examined by him. Cornil and Rigal have observed capillary dilatations. But on the other hand the blood vessels in many cases have been examined carefully with negative results, and the presence of such changes must be acknowledged to be exceptional. That a mechanical factor plays an important part in the development of the eruption is no doubt true. This is shewn by the frequency with which the eruption returns on the lower extremities after the patient is allowed to leave his bed and with its disappearance on his again assuming the recumbent position. In the purpura of heart disease, Bright's disease, etc., the eruption is usually confined to the lower extremities.

The *neurotic* theory is based upon the occurrence of purpuric eruptions in the course of painful nerves; *e.g.*, sciatica, lightning pains of ataxy, etc. Extirpation of sympathetic ganglia has been followed by purpura when the arterial tension has been also raised by ligaturing the aorta. The essence of the theory seems to be that vaso-motor influences may control or permit hæmorrhage. This does not seem to be a position which is supported by what we know of the vascular mechanism. Even inflammation, in which there is not only vaso-motor paralysis, but marked change in the permeability of the vascular wall, is not usually associated by hæmorrhagic extravasation such as we see in purpura. On the other hand, it is very hard to explain such cases as those of the kind referred to, which have been recorded by unimpeachable observers, except by making an assumption perhaps quite as open to criticism.

There remains one other case, which, as it differs in its etiology from all the others, has been reserved to the last.

Case 7. *Injury to Finger; Purpura; Epistaxis; Blood in Motions; Recovery.*

John W. F., aged 11, admitted September 17th, 1888, with a purpuric rash on arms and legs and a hæmatoma under nail of ring finger of left hand.

Family History.—Father and mother alive and healthy; mother's family rheumatic; no history of bleeding in family; five other children alive and healthy; do not bleed; no purpuric spots have been noticed.

Previous History.—Has had measles and scarlet fever; no rheumatic fever; four years ago had an attack of epistaxis, lasting four hours; two years ago fell and hurt his knee, and was an in-patient under Mr. Pemberton for five weeks; never vomited blood, except after the epistaxis four years ago; no hæmaturia; his gums and lips have not bled, but mother has noticed blood on his pillow in a morning; no spots noticed till a month ago, and then they were thought to be flea-bites; no history of excessive hæmorrhage from a cut or after extraction of a tooth; has had always plenty to eat, but has not taken much meat or many vegetables.

History of Present Illness.—A month ago had some purpuric spots on his legs; nine days ago had a slight accident to the ring finger of the left hand—he dropped a tumbler on to it; the end of finger at once went black and was very painful; this morning there was a thick purpuric eruption on his hand and forearm.

Present Condition.—Healthy looking lad; skin fair, eyes brown; hæmatoma beneath nail of finger, and a purpuric rash on left forearm with a peculiar distribution; the spots are thickly set on an area extending over the radial side of the forearm, the dorsum of hand, and proximal phalanges; the spots are close set, and in places the intermediate skin is red. This arrangement suggests a connection with the distribution of some vessel or nerve [? radial nerve]. There is another patch at the back of the left elbow, not extending over the olecranon; above each clavicle is a well-marked patch; there are scattered spots over the rest of body, extremities, neck, and face; also on lips, tongue, and on each conjunctiva. There are several bruises on the body. Heart, lungs, liver, and spleen appear normal. Urine contains a faint haze of albumen; no blood; no blood in stools. Blood examined with hæmatocytometer gives normal amount of corpuscles.

Sep. 21st. Stool to-day, after castor oil, contains a streak of blood. No fresh spots.

Sep. 23rd. A few fresh spots.

Sep, 25th. A few fresh spots over right deltoid and on left forearm. Fundus of eye free from hæmorrhages.

Sep. 30th. Fresh spots each day until this morning. Stool to-day contains a little blood.

Oct. 7th. Was up yesterday afternoon, and to-day fresh crop of small purpuric spots on legs; also a few on body and one on conjunctiva.

Oct. 9th. Again a few spots.

Oct. 11th. Fresh spots. Fundus of eye normal.

Oct 12th. Fresh spots.

The manner in which the purpuric eruption spread from the seat of the injury all over the body suggests the notion of a poison generated in the injured part which slowly diffusing itself gave rise to a general dyscrasia.

Though we are still entirely ignorant as to the nature of the agent which produces the dyscrasia, the balance of evidence points to the fact that it is to such a state that the disease should be attributed. There is not much to shew that it is an agent from without, but it is at least very curious that the disease appears to occur in epidemics. My cases nearly all occurred during May, June and July of last year. Dr. Russell's series of four cases were all collected during October and November in 1878, and it is perfectly certain that these cases are quite exceptional.

No reference has been made to errors of diet because it is generally understood that the hæmorrhagic dyscrasia so produced is called scurvy, and there are certain clinical differences which will be referred to under the head of diagnosis.

Morbid Anatomy.—The pathological changes met with are numerous.

The *heart* may have undergone extreme fatty degeneration, as in the case of William H.

The small spots of necrosis in the *liver* noted in the same were probably *post mortem* phenomena; they have not been previously observed.

The *spleen* and *lymphatic glands* are sometimes enlarged.

Ulcers have been described in the *stomach* and *intestine*, and sometimes there may be sloughing of the coats of the bowel.

Dr. T. D. Acland has described spherical masses in the *thyroid* of a case of hæmophilia and also in one of purpura (it is not stated whether there were hæmorrhages). The masses are said to have been composed of irregular epithelioid cells surrounded by round cells, and bounded by a layer of flattened elongated cells with well defined nuclei. Whether they are constant, or what their significance may be is at present unknown.

Symptoms.—1. *The Localisation of the Seat of Hæmorrhage.*—Epistaxis is the most common form of hæmorrhage; but there does not seem any reason why the hæmorrhage should come in one case from the nose and in another from the bladder. The latter was probably the seat of the hæmorrhage in the case of the little boy Harold N., as there were no indications of renal complication, *e.g.*, renal tube casts or casts of the ureter.

2. *The want of relation between the constitutional symptoms and the amount of hæmorrhage.* That is to say, a small continuous loss of blood in the case of W. H. B. was associated with much more severe symptoms than was the free hæmorrhage in the other two cases, though as he had been bleeding for three weeks before admission it is possible that he had lost a larger quantity of blood.

3. *The state of the blood.* The number of hæmocytes may be very much reduced even in favourable cases, as in Florence M., where they reached as low as 40 per cent. In two of Dr. William Russell's fatal cases before death there were, respectively, 22 and 12 per cent. of corpuscles. In some instances there is an increase of leucocytes, but this is not constant. The hæmoglobin is also reduced, but in proportion to the loss of corpuscles only. My cases show that micro-organisms are by no means constantly present, and very different organisms have been described by those who have found them. At any rate, nothing worthy to be regarded as a pathogenic organism has yet been described.

4. The *temperatures* recorded in my cases are not exceptional, as in Dr. Russell's similar temperatures were noted.

5. No *retinal hæmorrhages* were seen in any of my cases; they cannot therefore be so constant as has been asserted.

6. The *gums* were normal in every instance except case 2, where they were simply pale; in no case were they spongy.

Diagnosis.—The diagnosis of purpura hæmorrhagica has to be made from *hæmophilia* on the one hand, and from *scurvy* on the other.

Hæmophilia as it is at present understood is *always a congenital and persistent condition.* Purpura hæmorrhagica may be an acquired and transitory hæmophilia, but that does not concern the question of diagnosis. Cases of difficulty may arise, as in the first of this series, which may be regarded as an example of hæmophilia in a slightly pronounced form.

The state of the *gums* is characteristic of scurvy, as they are swollen, spongy, and gangrenous. Though it has been stated that they may be similarly affected in purpura, this is very exceptional, and perhaps doubtful. Retinal hæmorrhages are very rare in scurvy, but they are evidently not very constant in purpura. Large bruises are more common in scurvy than in purpura, but cannot be said to be diagnostic.

Scurvy, as is well known, is due to improper diet, especially to deficiency of vegetable food. Where it is known that the food was good and sufficient the diagnosis of scurvy is hardly reasonable; still where any doubt exists lemon juice may be administered, in addition to any other treatment indicated, and will soon settle the point. Such a doubt did exist in my mind in the case of William H., but the complete failure of lemon juice dispelled it.

Prognosis.—The prognosis should always be very guarded, as many fatal cases have been recorded. Dr. Russell, in the paper already alluded to, gives five cases, all of which were fatal; Dr. Mouillot, at the Irish Academy of Medicine last year, read notes of two fatal cases; Dr. John Phillips, in a communication to the British Medical Journal two years ago, refers to three cases of which two were fatal.

The causes of death appear to be (1) heart failure; (2) cerebral hæmorrhage; (3) ulceration and sloughing of the bowel; (4) gangrene of other parts, *e.g.* the genitals, or skin.

Treatment.—The experience gained in these cases shews that recovery *may* take place independently of treatment, and that any drug may gain credit for the cure. There are two types of cases in which the efficacy of remedies may be tested—1, when the bleeding is persistent or recurrent, and 2, when fresh crops of spots continue to appear for a long time. In the treatment of severe hæmorrhage *turpentine* had a fair trial in small and large doses. These large doses were recommended by Neligan, and the Dublin school still believes in their efficacy, judging by the report of a recent debate at the Irish Academy of Medicine. In my hands turpentine was a complete failure. On the other hand, the *hypodermic injection of ergotin* was in every case successful in arresting hæmorrhage; when given by the mouth it was evidently much less useful. In some cases the injections caused pain and swelling, with some local erythema; but the trouble was only temporary. For the treatment of persistent eruptions I have not been able to discern an equally sure means. Ergotin by the mouth, turpentine in small doses, iron with saline purgatives, and arsenic were tried; and as all these cases ultimately got well, there is not much to complain of, but the recoveries cannot be distinctly ascribed to the action of any of these drugs.

THE PRINCIPLES OF INFANT FEEDING.

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WHAT is a suitable food for hand-fed infants? By a suitable food I mean a food that is retained with comfort and ease, that gives rise to no gastro-intestinal irritation, that contains all the principles necessary for growth and development in their proper quantity and proper proportion, and a food which is pleasant to take. It is easier to state the question than to answer it; but, with settled notions as to fundamental facts, systematic investigation, and careful observation, the difficulty of finding an answer may be reduced to very slender proportions. It often happens that valuable time is lost, that the child sustains serious damages, and that attendants become hopelessly demoralised by groping about in a haphazard empirical fashion—first trying this and then that food—with no data for forming conclusions on past experience, or arriving at clear indications for future guidance.

If we enquire into the circumstances which lead to the disagreement of artificial food, we find that they fall under two classes: first, those which relate to the food, and secondly, those which relate to the condition of the child. The first group includes mistakes in the quality of the food, mistakes in its quantity, mistakes in the frequency with which it is taken, and mistakes in the mode of administration. The second group includes all inherited and acquired disorders of infancy, especially those which immediately affect the alimentary canal. The latter are generally induced in the first instance by unsuitable food; and the failure of subsequent trials of various foods is often wrongly ascribed to some qualitative fault, when it is really due to disorder of the stomach and bowels. It must also be borne in mind that two or more factors are often combined in causing food to disagree. The first point then upon which I would insist, is the necessity (in any case in which food disagrees with an infant) of conducting an enquiry as to the cause or causes of such disagreement upon some systematic plan. For this purpose the following tabular statement may be of service, and may readily be carried in the mind.

TABLE A.—CAUSES OF UNSUITABILITY.

Errors in Food.	Quality.	Indigestible ingredients.
		Impurities.
		Absence of necessary ingredients.
		Disproportion of necessary ingredients.
	Quantity.	Too much.
		Too little.
	Frequency.	Too often.
		Too seldom.
	Mode of administration.	
Disease.	General	
	Local (*esp.* Gastro-intestinal disease).	

The question as to what is a proper artificial food for an infant cannot be answered in the sense of formulating a diet which shall suit every child. Any attempt of this kind which ignores the "personal equation" can only end in failure. But it is nevertheless of the highest importance to acquire clear notions as to the standard requirements of a normal healthy child, under normal conditions. Now, there are two methods by which we may work with this end in view. On the one hand, by a long series of empirical trials, we might hope that at some time or other experience would provide materials for some inclusive generalisation; and, on the other hand, we might endeavour to construct a food on a scientific basis, which shall correspond as clearly as possible with the natural food of infants—namely, mother's milk. Of these two methods, the latter alone is likely to lead to satisfactory results. The method, however, in practice is not as simple as it appears. In the first place it is desirable to obtain a trustworthy analysis of average human milk—a proceeding which is surrounded by so many difficulties, that it is doubtful whether any of the older analyses can be trusted. That by Vernois and Becquerel, which has been copied from text-book to text-book, is certainly wrong, especially in the estimate of casein, which is far too high. It is the old difficulty—physiologists and chemists are not medical practitioners, and medical practitioners are for the most part neither physiologists nor chemists; and thus those who carry out scientific researches cannot put them to the test of actual practice, and *vice-versa.*

The albumenoid constituents of milk are of a very complex nature. By acidulation of any sample of milk, human or otherwise, a dense precipitate goes down consisting of casein together with fat. If this be filtered off and the filtrate be boiled, another precipitate may be obtained consisting of serum-albumen. If this, again, be filtered off and a solution of tannic acid be added to the filtrate, a third precipitate may be obtained, albumenoid in nature, but of a composition not properly understood. Thus we see that there are at least three groups of albumenoids in milk—casein, serum-albumen, and a third group of uncertain nature. An analysis of cows' milk, made by me with the assistance of Mr. Campbell (our dispenser), yielded the following results:—Casein, 2·73 per cent.; serum-albumen, ·348 per cent.; other albumen, ·348 per cent. The quantities of each vary considerably in the milk of different animals, and possibly their physical constitution varies also; and if this be so, it is not at all improbable that such variations may have an important bearing on the practical question of infant feeding, though as yet our knowledge is insufficient to arrive at any exact conclusions on the subject.

Not only must food for infants resemble mothers' milk as nearly as possible, but its materials should be cheap and ready to hand. And, further; if we are to use them intelligently, they must be of a simple and well-understood composition. The patent foods with which the market is flooded do not conform to these conditions. Some which are good are dear; many which are cheap are bad and untrustworthy; and it is true of all that their composition is complex and for the most part unknown to those who actually use them. In using them we are mere empiricists, and the dignity of our art is endangered by being obliged to rely upon the instructions printed on the labels. We are at the mercy of the reckless audacity of unscrupulous manufacturers; and being unaware of the exact composition, of such foods we cannot tell, in the event of their disagreeing, whether the fault is on the part of the food or of the child, and generalisation is rendered impossible.

If, therefore, patent foods are rejected as undesirable, we must fall back on some kind of milk. As already said, a chemical composition of the milk of different animals varies widely, some corresponding much more closely than others to that of human milk. But none of them correspond sufficiently closely to make further modification unnecessary, and therefore we may as well resort forthwith to the milk which is cheapest and most easily accessible—viz., cows' milk.

Now cows' milk is not assimilable by infants in its normal state, and for these reasons:—It contains too large a proportion of casein, and the coagula produced by the gastric secretions are too large and firm to be easily digested. Again, while human milk is alkaline and free from all micro-organisms, cows' milk is acid, and, unless properly protected, contains innumerable organic germs Accordingly, in order to make cows' milk available as an article of food for infants, its casein must be diluted, its objectionable mode of coagulation must be obviated, its acid reaction must be corrected, and it should be sterilized. It is obviously impossible to dilute one ingredient of milk without diluting the whole, and reference to Table B shows that the casein cannot be sufficiently diluted without at the same time reducing the proportion of the fat and sugar so far as to deprive the milk of its nutritive properties to a very marked degree. Sugar and fat must therefore be added.

* TABLE B.—COMPARATIVE PER-CENTAGE COMPOSITION OF VARIOUS FOODS.

		Reaction	*Starch*	*Water*	*Total Solids*	*Fat*	*Proteids*	*Sugar*	*Ash*
HUMAN MILK ...		Alkaline	0	88	12	3-4	1-2	7	·1-·2
COW'S MILK		Acid	0	87	13	4	4	4·5	·7
COW'S MILK ... WATER ...	1 2	Acid	0	95·6	4·3	1·3	1·3	1·5	·23
COW'S MILK ... WATER ...	7 7	Acid	0	93·4	6·6	2	2	2·25	·35
CONDENSED MILK ...		Neutral	0	28	72	10	10	50	2
CONDENSED MILK WATER ...	1 6	Neutral	0	86·6	10·3	1·4	1·4	7·1	·3
MELLIN'S FOOD MILK ... ... WATER ...	3 48 48	Acid	Trace	91·7	8·2	2	2·1	3·6	·4
BARLEY WATER MILK	1 2	Faintly Acid	·5	90·7	9·2	2·6	2·6	3	·46
CREAM ... MILK ... ... LIME-WATER SUGAR-WATER	2 1 2 3	Alkaline	0	88·4	11·5	4	1·1	6·2	·21

* *Rotch. Arch. Pediatrics.*—August, 1887.

The above conditions have never been better fulfilled than by the formula first introduced by Dr. Arthur V. Meigs, of Philadelphia, some two or three years ago. I have used it largely; and the longer my experience of it the more strongly am I convinced that its composition rests upon a sound scientific basis. The merit of this formula is not so much in the appropriate proportion of proximate principles as in the adaptation of a food so ready to hand as cows' milk, without the introduction of foreign ingredients. It is as follows:—Dissolve 17¾ drachms of sugar-of-milk in a pint of water. In order to economise the sugar and to limit the risk of decomposition, I generally direct only half of this quantity to be made at one time. It is easy to cut down a chip box to contain just the amount required, and so to avoid the trouble of weighing. The solution should be properly corked and kept in a cool place. Each meal is made up in the proportion of two teaspoonsful of cream, one of milk, two of lime-water, and three of sugar-water. This makes just one ounce of food. The milk is sufficiently constant in composition But of course it is necessary that it should be fresh and unskimmed. On the other hand, the composition of cream varies much. In large dairies where it is removed by centrifugal apparatus, it is fairly constant, containing from 30 to 35 per cent. of fat; but cream skimmed off by hand rarely contains more than 15 to 20 per cent The latter is the strength of the cream used by Dr. Meigs; but if centrifugally-separated cream is used it must be diluted with an equal bulk of water. As the child grows older, I make the following modifications:—Using the original formula for the first two months, I add an extra tablespoonful between two and four months of age, and another between four and six months. A glance at the Table B will show the close resemblance of this food to mother's milk.

The next best standard foods for infants are milk and barley-water and condensed milk. To make barley-water one heaped-up tablespoonful of pearl-barley should be added to a pint of water, and simmered down to two-thirds of a pint. Then add fresh water up to a pint, and strain. It is a good plan to put a stick of cinnamon into the barley-water while making. For each meal during the first month, one part of cows' milk should be added to three parts of barley-water; from 1 to 4 months two parts of milk to three parts of barley-water; from 4 to 6 months equal parts of each. The mixture should be well sweetened with milk- or cane-sugar; and one part of cream may be added with advantage. If cream is not obtainable, about half a teaspoonful (or more) of cod-liver oil and malt extract three times a day. In food of this kind the casein is well diluted; the slightly viscous character of the barley-water prevents the food from clotting in large lumps in the stomach; and the added cream and sugar make good the deficiency of these ingredients, which arises from dilution.

Condensed milk has many decided advantages. It is pure; its composition (for the same brand) is very uniform; it is cheap and is easily carried about; and from the large proportion of cane-sugar, it does not readily decompose, even in hot weather. I much prefer the sweetened to the unsweetened brand, from the extreme liability of the latter to decompose when once opened if not quickly used. There is no excess of sugar after the proper dilution. To begin with, it should be diluted at least seven times. The milk and cane-sugars together are about 50 per cent.—15 per cent. of the former and 35 per cent. of the latter. This diluted seven times gives a percentage of 7, which is just about the average amount in human milk. It has, however, one great defect after dilution, namely, a deficiency in the proportion of fat, which is only about 1 per cent. instead of from 3 to 4 per cent. I am certain, from extended and careful observation at the Children's Hospital, that children fed exclusively upon condensed milk are particularly prone to rickets; and I attribute this to a deficiency of fat in the food. Though all circumstances and influences which tend to depress vitality constitute important predisposing causes of rickets, I regard the want of fat in food—at least in some cases—as a determining cause. In several cases where the initial symptoms of rickets have been observed, they have disappeared, and the child has regained normal health, with practically no other treatment than cod-liver oil with or without malt extract. I therefore strongly recommend that all infants fed on condensed milk should either have cream added to their food or take cod-liver oil.

I draw attention to these three foods—Meig's formula, barley water and milk, and condensed milk—as standard foods for the artificial nourishment of infants Now and again special idiosyncracies will be met with which call for special measures.

If proper precaution, however, be taken to prepare milk as described, more particularly with regard to free dilution in the first instance, with only gradual increase of strength subsequently, I am convinced that should disagreement with the child occur, it almost always depends not upon the quality of the food, but upon either the conditions under which the food is given, or upon the presence of some gastro-intestinal or other disorder on the part of the child.

(To be continued.)

REPORTS OF CASES.

CASES OF HEAD INJURY.

BY E. R. NASON, M.B. CANTAB.,
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Recovery after Severe Compound Fracture of the Vertex with loss of brain substance and fracture of the base.—Under the care of Mr. Bartleet—from notes taken by Mr. W. S. Nason, Assistant House Surgeon.

S. B., aged 25, while working at a circular saw on the evening of Dec. 19th last, was struck on the right side of the head, with great force, by a piece of wood which flew from the saw. He was brought to the General Hospital in an unconscious condition. Respiration and pulse were both slow and feeble, and there was partial paralysis of the left side. On examination a compound comminuted depressed fracture of the skull in the right temporal region was found. Several fragments of bone were driven deeply into the brain which was escaping from the wound. Shortly afterwards, without an anæsthetic, Mr. Bartleet enlarged the wound and removed with the aid of a pair of polypus forceps and the forefinger, ten pieces of bone of various shapes and sizes, which when placed together covered a circular area two and a half inches in diameter. The forefinger passed quite three inches within the cranial cavity and a considerable quantity of brain substance came away with the pieces of bone. The hæmorrhage was profuse and very difficult to check, the middle meningeal artery being torn across, but it was eventually controlled by plugging with two sponges which were pushed within the cranial cavity. Antiseptic gauze and salalembroth wool were placed over the sponges and the patient conveyed to the ward, supposed to be in a hopeless condition. At 9 30 the dressings were changed, but sponges left *in situ*. Pulse improving.

Dec. 20th. Wound redressed and sponges removed, surface of brain covered with blood clot. Temp. 100·4. Urine drawn off by catheter. Patient quite sensible, but still unable to move left arm or leg except very slightly. A great deal of pain at night, relieved by small doses of opium. Ordered calomel, gr. v.

Dec. 21st. Calomel repeated. Pains less. Answers questions rationally.

Dec. 22nd. Pulse worse at night again, and pain more severe. Patient wanders a little at times.

Dec. 23rd to 26th. Wound dressed each day, no suppuration; still uses right side more than left.

Dec. 27th to Jan. 2nd. Improving each day, but complains of severe headache at times.

Jan. 3rd. A thin watery discharge is coming in considerable quantity from the right ear and soaks through the dressings.

Jan. 4th. Discharge from ear still profuse; Temp. has risen to 102, and patient complains of sore throat.

Jan. 5th. Throat better and temp. normal; discharge still continues.

Jan. 10th. Discharge from ear, which has been gradually diminishing, has now stopped.

Jan. 11th. Pain in head has disappeared; wound is granulating healthily.

Jan. 12th to 24th. Has steadily improved but has complained of a singing in right ear during the last few days.

Feb. 5th. Wound completely healed.

From that time patient made an uninterrupted recovery, and has now gone back to work wearing a protecting metal plate. There is now no loss of power on the left side, and mentally and physically patient is as well as he was before his accident.

There is little doubt that the severe hæmorrhage in this case acted very beneficially, first in thoroughly cleansing the cavity made in the brain and washing away any impurities which might have been introduced. And secondly, in reducing the subsequent tendency to inflammatory complications.

PERISCOPE.

RENAL AND URINARY DISEASES.

BY ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.

The significance of Peptonuria in Pregnancy. By Dr. Koettnitz, *Allgemeine Medicinisch-Central-Zeitung.*—According to this writer peptonuria in pregnancy indicates the death of the fœtus. This statement needs confirmation. The test for peptone is the formation of a pink colour with Fehling's solution in the cold. It is best to dilute the reagent.

A hint for facilitating the microscopical examination of the Urine.—When attempting to examine urine under the microscope for casts, epithelial cells, and other organic bodies, a good deal of annoyance and difficulty is sometimes caused both by urates and also, when the specimen is not quite fresh, by fermentation and putrefactive products. In order to obviate this difficulty, and with the further view of preserving the specimen, Dr. M. Wendringer advises that the urine should be mixed with a nearly saturated solution of borax and boracic acid. This dissolves the urates and keeps the urine from fermenting, and at the same time exercises no destructive effect upon the casts and epithelial elements which it is desired to examine. The solution is prepared by mixing 12 parts of powdered borax in 100 parts of hot water, and then adding a similar quantity of boracic acid, stirring the mixture well. It is filtered while hot. On long standing a small deposit crystallises out, but clings to the side of the vessel, so that it does not interfere with the transparency of the liquid. The urine to be examined is put into a conical glass, and from a fifth to a third of its bulk of the boracic solution added to it and agitated with it. The urine will be found to become clear in a short time—*i.e.*, if there is no cloudiness due to bacteria; and it will remain unchanged for several days. If it is only wanted to clear the urine and to make it keep for a day or two, the addition of a smaller quantity of the boracic solution is sufficient. If a third of its bulk is added, no fermentation or putrefactive processes take place, even if the glass is left uncovered in warm places. Albumen, too, if it exist, is not coagulated. The organic elements—as epithelial cells, casts, blood corpuscles, &c.—collect so quickly, without undergoing any morphological change at the bottom of the glass, that the first drop taken up by the pipette usually proves a satisfactory specimen.—*The Lancet*, April 6th, 1889.

Propeptonuria, or Hemialbumosuria, in Measles.—Propetone, or hemialbumose, is known to exist in the urine in many diseases in addition to osteomalacia, in which it was first found by Dr. Bence Jones. Thus it has been detected in abscess of the liver, septicæmia, hip disease, peritonitis, endocarditis, parametritis, spinal curvature, Bright's disease, and in the puerperal state. Dr. Loeb, of Frankfort, now writes that he has found it in the urine of nine patients with measles out of twelve cases of the kind in which he examined the urine for it. The method of testing employed by him is as follows:—Sulphuric acid added to the urine drop by drop causes, if propetone is present, a copious, white, flocculent precipitate, which disappears on heating, but re-forms if the liquid is allowed to cool. Acetic and hydochloric acids will give a similar reaction. It must be remembered that an excess of acid will re-dissolve the precipitate; therefore it is necessary to be careful to add it slowly. As a rule, in the cases of measles examined, the reaction was obtained for about two days at the beginning of the affection after the temperature had begun to go down, but before the rash had disappeared. Dr. Loeb found in several of his cases some enlargement of the liver, which he thinks may have some connection with the change in the urine. He also suggests that perhaps the skin affection is connected with the formation of propetone, as it has been found in patients suffering from various affections in which the skin is implicated; thus Leube found it in urticaria, Ter-Gregoriantz in diffuse dermatitis, and Lassar was able to produce it in animals by rubbing petroleum ointment into the skin. Regarding the relation of propeptonuria to the condition which gives the so-called di-nitro-benzolic acid reaction which is frequently found in typhoid, scarlatina, advanced phthisis, and other febrile diseases, Dr. Loeb has found that its presence does not always imply the existence of propeptonuria, though in many cases the former condition co-exists with it.

On the Presence of Free Uric Acid in the Urine as a Test of the Existence of the Gouty State.—Dr. Arnold Schetelig (*British Med. Jour.*, 1889, vol. i., p. 1,227).—Dr. Schetelig has proposed to determine the quantity of uncombined uric acid present in the urine by first determining the whole quantity present, and then allowing an equal portion of urine to pass through a filter charged with uric acid, the free uric acid being retained by the filter which the water passes through. In gout he finds from 25 to 50 per cent. or more of the uric acid is present in the uncombined crystalline form, and by this means true gout can be detected.

The Influence of Phosphate of Soda on the Excretion of Uric Acid.—Dr. A. Haig (*Brit. Med. Jour.*, 1889, vol. i., p. 1,227).—Dr. Haig has found that all specimens of sodium phosphate do not cause an increase in the elimination of uric acid This effect of the drug was hindered by the presence of acids or acid salts, and he recommended that in all cases it should be combined with a little bicarbonate of soda. He considered it of special use in the mental depression of the uric acid dyscrasia.

On the Functions of the Glomeruli of the Kidney: A Contribution to the Study of Albuminuria.—J. G. Adami (*The Practitioner*, April, 1889).—The filtration theory of the glomerular function is inadequate to explain the undoubted selection effected by the glomerular wall, a result which dead animal membrane at any rate cannot produce. Thus albumen always transudes in experimental filtration of blood serum through animal membrane. In the author's experiments, where the renal arteries of the frog were ligatured and blood serum containing hæmoglobin in solution injected even under very low pressure, hæmoglobin was found in the capsular spaces, though no noticeable quantity of urine was secreted. Immanuel Munck, in his experiments with the extirpated kidney, found that the secretion was richer in chloride of sodium (20 to 67 per cent.), sulphate of sodium (45 to 74 per cent.), and sugar (60 to 90 per cent.) than the blood serum passed through the kidney. The absence of albumen from normal urine is due to this selective function of the glomerular epithelium; and the presence of it in those cases called transient-functional, febrile, toxic, and functional is due to its derangement.

Suppression of Urine seven days in a child two years old.—Dr. E. P. Bernardy, in a paper read before the Obstetrical Society, Philadelphia, gave the details of an interesting case:—Was called in to see the child August 17, 1888. He had been ailing for a few days, and was suffering from nausea and vomiting; bowels loose; tongue clean, white, and flabby; skin white, eyes dull, pulse quick, but no fever. Pepsin mixture was ordered. The next day stomach was irritable, and he could not retain anything on his stomach; pulse full and quick, but no fever; was informed that he had not passed urine for some time; ordered xx gttæ. spt. æther nit. in warm water every hour or two. The following day condition about the same, but passed a quarter teaspoonful pure blood from the penis. Examination over region of bladder shewed no indication of fluid. Ordered warm digitalis and flaxseed poultice applied on region of kidneys —a bitart. potassa mixture, with infusion digitalis internally.

Next day shewed no improvement, and twitchy movements of the hips and lower extremities were easily started.

On August 21, 22 and 23, the symptoms increased to an alarming extent, the skin being burning hot, and no urine being passed, close examination over bladder shewing it to be empty. Six dry cups were applied over the region of kidneys, and five hours afterward he passed a large quantity of clear urine.

August 25, all nervous symptoms abating, he passed urine of a light yellowish colour, and a general improvement was manifest. This continued, and the patient was discharged cured, September 5, 1888.

The case was interesting on account of its rarity, even partial suppression of urine resulting in coma, convulsions and death.—*Journ. Am. Med. Ass'n.*

Unilateral Nephritis.—At a meeting of the Pathological Society (*Lancet*, April 20th, 1889.) Dr. Crooke read a paper on Unilateral Interstitial Nephritis, caused by pressure upon the ureter and hilus. The changes, of which he shewed several microscopical specimens, were produced by mechanical pressure, the results being histologically analogous, if not identical, with the changes found in that form of disease known as granular contracting kidney. In one case the pressure was limited to the excretory duct of the kidney, whilst in another it was exerted on the blood-vessels as well. But while the result in both was the same—viz., atrophy and contraction of the kidney—under the microscope histological differences were seen. The first case, a girl of sixteen, was one of cystic tumour in the right broad ligament, which pressed on the ureter; the urine was albuminous, and a few granular casts were found. Ovariotomy was done, but death occurred six weeks later of bronchitis and purulent peritonitis. The right kidney was much contracted, the capsule thickened, and the surface granular. On section it was tough, but there was no visible thickening of the arteries or signs of dilatation of the pelvis or ureter. Microscopically there was marked dilatation of the convoluted tubules in the subcapsular portion of the cortex, the majority of which were distended with a clear coagulated exudation, and shewed atrophy of their epithelial lining; there was dense small-celled infiltration of the inter-tubular stroma, and a few of the Malpighian corpuscles were seen dilated and filled with exudation. In parts of the cortex were oval spindle cells, which shewed organisation and contraction. The opposite kidney was large, and was the seat of cloudy swelling. There was no dilatation of the ureter, and there was absence of glomerular and arterial changes. The second case occurred in a young man aged twenty-one. It was one of chondrifying sarcoma, with several growths, one of which pressed on the left ureter and vessels. There was marked endarteritis of the smaller branches of the renal artery, general fibroid degeneration of the cortex, with thickening of the stroma, almost indistinguishable from arterio-sclerotic granular nephritis. The right kidney was natural. The non-dilatation of the ureter might be explained by the pressure on it being relieved when the tumour rose ahove the pelvic brim. The vascular change was probably the most important one. Dr. Carter had recently observed a case in which an aneurism pressed on the renal vessels of one side, and produced changes practically the same as those now recorded.

Nephritis as a Sequel of Whooping-Cough — Dr. Stefano Mircoli, of Monterubbiano, has lately called attention (*Gazzetta degli Ospitali*, Jan. 13) to the occurrence of nephritis as a *sequela* of whooping-cough. In 1887, among ten children who suffered from the disease, the attack was followed in two by nephritis, which proved fatal in one of them. The necropsy left no doubt as to the existence of nephritis. In 1888, among thirty-five cases of whooping-cough, Dr. Microli met with nephritis in four. Two of these died; and in one of them a *post mortem* examination was made. The kidneys were seen with the microscope to show severe parenchymatous nephritis. No cultivation experiments could be made to determine whether the disease was parasitic or not. The microscope showed no trace of micro-organisms.

Morphine in Chronic Uræmia.—Dr. Stephen Mackenzie read a paper at the Medical Society on April 8th (*Brit. Med. Jour.*, April 13th, 1889) on the treatment of chronic uræmic symptoms by hypodermic injections of morphine, long advocated by Dr. Loomis, of New York. He related two cases in which benefit had always followed its administration. The symptom for which it was used was urgent dyspnœa. Dr. Wm. Carter, of Liverpool (*Ibid*, April 27th, 1889, p. 943), has since laid down, as the indication for the use of morphine, uræmia with *dilated pupils.*

Dujardin-Beaumetz on Recent Advances in the Treatment of Diabetes.—The most noteworthy innovation in the pharmaceutical treatment of diabetes is the administration of arsenicated lithia, which, though it may not have realized the sanguine anticipations of its introducer, Dr. Martineau, is nevertheless of service. The author gives eight grains of carbonate of lithium in a glass of Vichy water, to which two drops of Fowler's solution is added, to be taken before each meal. In diabetes of nervous origin, characterized by extreme polyuria, he gives 10-grain doses of antipyrine, sweetened with saccharin, three or four times daily. Its effect is to reduce the quantity of urine eliminated, as well as the sugar, the latter not only *pari passu*, but absolutely. Phenacetine and exalgine bring about the same results. He advocates the use of saccharin for sweetening purposes, and states that, provided the quantity ingested does not exceed two grains daily, no inconvenience is likely to be caused. Passing on to the dietetic treatment, the author speaks very highly of "soja" bread, the only drawbacks to the use of which are its disagreeable taste and laxative action on the bowels. With references to the use of potatoes, he points out that they contain 17 per cent of glucose, as compared with the 19 and 20 per cent. of best gluten bread; hence, that potatoes are preferable to gluten of bread. He stipulates, however, that the quantity ingested shall not exceed 100 grammes (7 ounces) daily, as otherwise it would do more harm than good. He remarks that milk augments considerably the proportion of sugar in the urine, and the same remark applies to fruits, and especially grapes.

To make up for the loss of carbo-hydrates, fats and viands containing fat are to be commended—caviar, sauerkraut, etc. Alcohol must only be given with caution, and in limited quantities.—*London Medical Recorder.*

The Connection between Diabetes and Graves' Disease.— A. E. Manby (*Brit. Med. Journal*, 1889, Vol I. p. 1052).

Case 1.—A., a retired naval officer, died of diabetes, aged 70, leaving, with other issue, a son, A. A., aged 45, the victim of diabetes, and a daughter, A. F., aged 40, the subject of goitre, exophthalmos, and irregular action of the heart.

Case 2.—B. died of diabetes, said to be caused by a fall on his head, aged 19. Some twenty years later his brother, B. M., aged 50, lost two children with acute diabetes; and a sister, B. F., died, having suffered for several years with exophthalmos, goitre, palpitations, and semi-maniacal mental disturbance, which appeared to alternate in a marked manner with the enlargement of the thyroid gland and the prominence of the eyeballs.

Case 3.—C. A. and C. B., two sisters, died of acute diabetes, aged respectively 9 and 10 years, and fifteen years later a younger sister, aged 23, developed enlargement of the thyroid with exophthalmos and heart symptoms.

Morbid Changes in Diabetes.—Dr. P. Ferraro, who has made several researches on the subject of the changes produced in the different organs of the body by diabetes, has recently published the results of similar investigations in a fresh case, the eighth of the series. The arteries were affected with chronic endarteritis; in the lungs there were morbid changes not due to bacilli; in the stomach and intestines the mucous membrane was atrophied; the pancreas was transformed into a firm, compact mass of a fibrous or cicatricial character; in the parenchyma of the liver and in the spleen pulp there were also signs of atrophy. Here, therefore, as in the other cases examined, the digestive organs were most of them affected to a greater or less extent, while the nervous system was not apparently the subject of any morbid changes. Dr. Ferraro considers the exhaustive study of the morbid histological changes in diabetes very important, and believes that we shall not arrive at any definite conclusion as to the etiology of this disease until our knowledge of the conditions under which sugar is formed and distributed in the body in a state of health is very much further advanced than it is at present.—*The Lancet*, April 21st, 1889.

Some blood changes met with in Renal Diseases. — By E. Lloyd-Jones (*The Practitioner*, vol. xliii.). — Lloyd-Jones has made some rough observations upon the density of the blood as a whole, without distinguishing between the corpuscles and the plasma. Taking the normal standard in health at from 1058 to 1060, in acute nephritis it was generally reduced, 1052, as the mean of ten cases; in "chronic parenchymatous nephritis" the mean of fifteen cases was 1049; in nine cases of "chronic interstitial nephritis" with gout it was 1051; in twenty-four cases of "chronic interstitial nephritis" without gout it was 1058. He explains these differences by reference to the quantity of urine eliminated, which was normal or below normal except in the last class, where it was excessive.

SURGERY.

BY WILLIAM F. HASLAM. F.R.C.S.

The Treatment of Tubercular Disease in and near Joints. By J. S. M'Ardle, F.R.C.S.I., *The Dublin Journal of Medical Science*, for February and April, 1889.—In this paper Mr. M'Ardle confines his remarks to the treatment of three conditions :—1. Scrofulous tendo-synovitis; 2. Acute and chronic tubercular osteo-myelitis; 3. Circumscribed articular disease.

"The importance of the knowledge gained by early exploratory incision can hardly be exaggerated, when we contrast the results of the present system of treatment with those obtained by the most carefully regulated palliative measures. The tediousness alone by the latter would condemn it; but, add to this the fact that the local trouble is a constant source of danger, since it may at any time cause a general infection, and who will doubt but that thorough eradication of the diseased centres is the only reliable treatment of the affection."

1.—*Tuberculosis of tendon sheaths.*—Under this heading primary tuberculosis is alone dealt with. Considering the proximity of these sheaths to joints, and the natural tendency of tubercular inflammation to spread, it is a matter of no small moment to completely remove a source of such danger as soon as it is detected. The course of this disease is "that at first slight loss of muscular power and deformity are the only effects, but later we find it travel through connective tissue, ligaments, etc., engaging the synovial membrane of neighbouring joints, and even at times infiltrating subjacent bones, so that ultimately a disease, originating in a tendon sheath, may necessitate a resection of a joint, or even an amputation."

Notes of ten cases are given, the line of treatment being free incision, scraping away of granulative tissue and drainage of the cavity. In one case of old standing disease, Symes' amputation had to be performed. Another patient died of a general tuberculosis two years after a successful operation for tuberculosis of the sheath of the flexor carpi ulnaris. The remaining cases recovered completely.

2. *Tuberculosis of Bone.*—When a tubercular deposit in bone can be recognised, the sooner it is removed the greater is the chance of saving the adjacent joint. Mr. M'Ardle refers to nine cases in which he has treated a local tuberculosis in bone by trephining, scraping, and drainage, and his results are most favourable. Some description is given of the method of applying the trephine to different bones. "The head of the humerus can be reached and readily drained by an incision along the bicipital groove, drawing outward of the deltoid, and slight rotation inwards of the arm. The periosteum is then raised along the outer side of the biceps tendon, avoiding its sheath. The medium-sized trephine, 12 mm. for adults, the smallest one, 8 mm , for children, can be applied so as to pass obliquely from below the greater tuberosity upwards and inwards through the

epiphysary cartilage into the head. This allows (when the arm is placed across the chest) free drainage so long as the patient sits up or lies on the opposite side." For trephining the head and neck of the femur: "the point of application, in the absence of any softening of the bone surface, is, in adults, 1½ cm. below the most prominent part of the great trochanter, and a little below the middle line of the bone; in children, the central point of the trochanter answers. The direction in adults is upwards and inwards towards the middle of Poupart's ligament, inclining the point of the trephine forwards. In children the direction is similar, but care must be taken not to needlessly interfere with the epiphysary cartilage. This can be done by withdrawing the instrument after it has passed through 1 cm. of bone, the inner surface of which should be examined for pus, cheesy deposit, or other evidence of disease. If none shews and there is undoubted femoral disease, the trephine may be reintroduced and a portion of the canallous tissue removed until a clear channel is made reaching the diseased spot." The trephine for the humerus and femur must be a special long-barrelled one.

3.—*Joint Tuberculosis*, where "the local disease engages intra-articular structures, or structures other than bone, so intimately connected with the synovial membrane that extension thereto of disease is likely to take place unless prevented by judicious treatment."—Three cases are reported in which the infra patella bursa was the seat of chronic or tubercular synovitis. These were treated by incision, scraping, and drainage, the result in each case being good. It is pointed out that the usual course of such cases is, "the patient first finds that kneeling, sudden flexion of the leg on the thigh, or any such effort causes pain deeply in the joint. After a little time stiffness and swelling, which will be for the most part due to distension of the synovial membrane, as a result of a subacute synovitis arising from the presence of the tubercular lesion in the infra-patellar pad. This synovitis is the trouble that causes the patient to seek surgical advice, and for the synovitis he is treated. Meanwhile the original disease spreads in all directions, extending into the synovial membrane, which becomes thickened; the fungus growths invade the ligaments, and destruction of the joint is the result."

By an early operation the "synovitis is cured, extension of the disease prevented, and a sound movable limb produced." Mr. McArdle lays down certain rules for the performance of these operations:—

1. "Make the incision or incisions in such position that arthrectomy can be carried out if necessary, or even complete resection if required."

2. "The opening should be sufficiently free to allow a complete removal of diseased structures."

3. "The incision should be in proper position to allow of free drainage."

Cases of Intermuscular Synovial Cysts, with Remarks on their Mode of Origin.—By D'Arcey Power, F.R.C.S. (*Illustrated Medical News*, Feb. 16th, 1889.)—In this paper Mr. D'Arcey Power gives notes of nine cases of intermuscular synovial cysts, all of which, with one exception, had been treated in the wards of St. Bartholomew's Hospital. The specimens from which the drawings have been taken are in the museum attached to the Medical School of the hospital. He points out that these cysts "occur in cases of tubercular disease, in osteo-arthritis, and in that variety of osteo-arthritis associated with locomotor ataxy which is at present called Charcot's disease. They are remarkable because, although they originate in all cases quite close to the diseased joint, or are directly derived from it, they track for considerable distances along the intermuscular planes, and only become superficial at a distance from the articulation. They appear to be most frequent in the knee, shoulder, hip, elbow, and perhaps the wrist." Mr. D'Arcey Power thinks that "the cyst is the result of some constitutional affection, leading to that low vitality of the tissues which causes disease of the joint as soon as an exciting cause presents itself. The predisposing cause is present, however, in a certain number of cases before the excitant appears, and leads to a passive effusion, either into the joint, as in cases of hydrarthrosis, or into the bursæ, as in cases of synovial cysts. In the same manner hydrocele may occur in debilitated persons, and testicular hydrocele in cases of disease of the testis, whilst passive effusions and œdema are of common occurrence in the anæmic." He regards tubercle as the most frequent cause of the affection, and he points out that bursal enlargements are met with in the condition known as "senile struma." As the result of his own experience he is "inclined to think that the connection between osteo-arthritis and the formation of such cysts is accidental rather than causal." Tapping these cysts is deprecated as being likely to be followed by the conversion of the synovial contents of the cyst into pus.

On Some of the Deformities of the Tarsus in Congenital Equino-Varus, with a description of the external lateral-traction apparatus.—By Newton M. Schaffer, M.D., of New York (*Medical Record*, April 27th, 1889).—After discussing the pathological anatomy of equino-varus, the author concludes by saying that "we may assume the following as a basis to treat the condition under consideration: 1. That there is a compound deformity in equino-varus due to a rotation of all the bones of the tarsus upon three distinct axes, viz., transverse, antero-posterior, and vertical. 2. That this compound deformity is due to a loss of relation between muscular and osseous growth—not to muscular contraction or contracture, as has generally been supposed. 3. That the principal obstacles to a reduction of the deformity are (1) the position acquired by the astragalus (with or without an intrinsic deformity of the neck) and (2) the ligamentous shortening. 4. That these difficulties are much increased by the progressive ligamentous and osseous changes that occur as the direct result of prolonged malposition. 5. That the deformities of the medio-tarsal joint are secondary in importance to those which occur at the astragalus." Dr. Schaffer holds that "while much ingenuity has been expended in devising and in perfecting the various cutting methods of treatment, the apparently simple, but really more difficult, mechanical methods which promise so much better results have been in many cases neglected." He figures and describes an ingenious apparatus for correcting the deformity.

Anchylosis of the Knee-Joint as a remedy for the "dangle-leg," due to infantile paralysis affecting the entire limb.—By Stephen Smith, M.D., of New York (*Medical Record*, April 6th, 1889).—In this paper Dr. Smith draws attention to the desirability of undertaking some operative procedure for limbs rendered useless by infantile paralysis; a case is quoted in which he excised the knee with a most satisfactory result. In 1878 a boy, ten years of age, came under his care who had walked with a crutch since he was three years old, his left leg having been rendered useless by infantile paralysis There was flexion at the knee to about a right angle, due to paralysis of the quadriceps extensor, which had undergone almost complete atrophy. The hamstrings had contracted and maintained the flexion. The actual length of the limb was nearly as great as the sound one. Division of the flexor tendons was effected with a view of straightening the leg at the knee, but owing to the tension of the remaining structures in the popliteal space this could not be done. In a few weeks time excision of the knee was performed; the joint was opened by dividing the patella, the articular surfaces were found healthy. Sufficient bone was removed from the femur to enable the tibia to be brought into a straight line with it, the tibial articular cartilage and the synovial membrane being left undisturbed. The femur and tibia were fixed by two wire sutures, and one was inserted into the halves of the patella. The wound healed without suppuration, and the patient was about on crutches at the end of four weeks, at which time there was considerable movement of the joint. In eight weeks time he could bear some weight on the limb, and in four months the union, though fibrous, was so firm that no motion could be detected. By this time "he had acquired an elasticity in his movements which so concealed the imperfection of the leg due to the stiffening of the knee, that it was difficult to detect his infirmity." Dr. Smith has now operated on a number of similar cases and has always obtained good results. The cases selected are those in which the atrophied limb is only slightly shortened. In some, sections have been removed from both bones, union in these cases has been quicker, but there has been greater shortening.

Obturator Dislocation of the Hip Joint, with Shortening.—Under the care of Mr. Rivington (*Lancet*, May 25th, 1889).—The patient, a well-developed muscular man weighing 12 stone, while stepping from one barge to another, slipped and fell between the two boats in such a manner that almost the entire weight of his body was supported by the left leg. He was, in fact, suspended over the edge of the barge by the left leg, the inside of the knee resting on the gunwale, and the thigh being in a position of fixed abduction. On examination, the thigh was found much abducted, the knee bent and incapable of extension. In the erect position the left leg was advanced and the body bent forward. This bending of the body enabled the patient to bring the toes to the ground, but he could not bear any weight upon them. There was shortening to the extent of about a quarter of an inch. There was a marked depression over the situation of the great trochanter, and on the inner side of the thigh the adductors were felt as a tense band. Under an anæsthetic, reduction was easily effected by manipulation, viz., flexion, adduction, rotation inwards, and extension. Mr. Rivington is of opinion that there is no real lengthening in obturator dislocation, but that it is only apparent. The text books lay more or less stress upon the fact that in these cases there is real lengthening. This "traditional two inches" he regards "as an instance of defective observation," and he quotes cases in support of this idea.

A Case of Dislocation of the Wrist Backwards.—Under the care of Mr. Sherburn, of the Hull Royal Infirmary (*Lancet*, May 18th, 1889).—The patient, a boy aged 14, had fallen twenty feet from a ladder on to the ground. On examination, "the left hand was markedly displaced backwards from the plane of the forearm, and was somewhat abducted. The fingers were partially flexed in all their joints. At the back of the wrist was the rounded prominence of the displaced carpus. On the anterior aspect the lower extremities of the radius and ulna were easily recognised, as were also the styloid processes of these bones. The relations of the parts were easily made out, as at the time of examination no swelling had taken place. The following measurements were taken, and found to be the same in both arms, viz., (1) from the tip of the olecranon to the styloid process of the ulna, and (2) from the head of the radius to its styloid process" Reduction was effected by extending the wrist and pulling in a direction which formed an angle of nearly 90° with the forearm, the line of traction being gradually altered until it was in the same line as the long axis of the forearm. The displaced carpus was at the same time pressed downwards and forwards.

GYNÆCOLOGY.

BY E. TEICHELMANN, M.R.C.S.

Gonorrhœal Salpingitis.—Schmitt, Wurzburg (*Archiv. für Gynækologie*, Vol. 35, part 1).—It is Nöggerath's undoubted merit to have drawn attention (by his paper on "Latent Gonorrhœa in Women," published in 1872, in Bonn) to the great importance of gonorrhœa in women. Until then one had no idea, much less an accurate knowledge of how exceedingly often gonorrhœa spreads from the uterus into the Fallopian tubes, and that gonorrhœa held such a prominent place in the ætiology of many diseases of women.

Although many disagree with Nöggerath's ideas and statements in regard to "latent gonorrhœa," still what he says of the importance of acute, and even more of chronic gonorrhœa, as a cause of tubal diseases and pelvic peritonitis, is accepted and confirmed by many investigators.

Nöggerath distinguishes three kinds of pelvic peritonitis—1, Acute Perimetritis (with or without parametritis); 2, Recurrent Perimetritis in connection with gonorrhœal salpingitis; and 3, Chronic Perimetritis. Gonorrhœa he takes to be the origin and cause of these three forms of perimetritis, particularly of the recurrent form. When once the tubes are infected they form a focus from whence recurrent exacerbations of the pelvic condition result; this may go on during the life of the patient. According to him gonorrhœal salpingitis is an exceedingly frequent, almost constant complication of gonorrhœa.

Nöggerath has met with much opposition; but the majority of gynæcologists of recent times are agreed that his views are in the main right. Sänger calculates that one-ninth of all gynæcological diseases have a gonorrhœal origin, and that of all gonorrhœally infected women one-half suffer as a consequence from inflammation of the uterine appendages.

Sänger does not look upon gonorrhœa, during the puerperal period or at other times, as an exceedingly fatal condition compared with the real (?) puerperal infections; more particularly for the reason that general peritonitis never (?) follows gonorrhœal perimetritis. He explains a case of death after escape of pus from the tubes into the peritoneum as due to shock, septicæmia, or pyæmia. But there can be no doubt that a large number of so-called puerperal fever cases, which commence very acutely, rapidly ameliorate, and become very chronic, are undoubtedly due to gonorrhœal infection. In some cases the infection occurs late, two or three weeks after labour, in others it is due to a gonorrhœa existing before pregnancy.

Kroner's statement that the most certain proof of the gonorrhœal nature of the tubal inflammation consists in the demonstration of gonococci in the pus, has not so much importance attached to it by Sänger.

At a meeting of German Scientists in Berlin, 1886, Gusserow reported 14 cases of removal of the Fallopian tubes. In all these cases perimetritis existed, and Gusserow ascribed this condition as due, in the majority if not all of the cases, to gonorrhœal infection; which first produced a pyosalpinx and then spread to the peritoneal surfaces of the appendages.

Martin at the same meeting recorded 287 cases of salpingitis; half of these he ascribed as due to a spreading catarrhal endometritis; the rest he distributes in the following way—one half are puerperal, the other half are divided into gonorrhœal and tubercular in the proportion of six to one.

Although many investigators have made careful examinations of the tubal contents and the perimetric exudations for gonococci, it is surprising how few have been successful in finding them. Nor have they ever been found in the tissues of sections of the tubal mucous membrane.

There are difficulties in the way of the spread of the infection over a continuous mucous membrane in the shape of anatomically narrow places, such as the internal os uteri and the ostium internum of the Fallopian tube, otherwise the uterus and tubes would be more often involved in the process than at present appears to be the case. When these difficulties are overcome by favouring causes, such as excesses, venereal or otherwise, or mechanically by vaginal injections, the inflammatory condition spreads in exactly the same manner as in the first affected mucous membrane. The earlier views on the spread of the inflammation differ from the later, in that what was then taken to be simply a catarrhal inflammation is now ascribed to the action of specific micro-organisms.

The changes in the tubal mucous membrane due to gonorrhœa have not been sufficiently studied, in spite of the numerous opportunities given by the material from frequent operations. Orthmann has recently investigated the matter carefully. His results and those obtained by Schmitt agree in the main, varying naturally according to the length of time the disease had existed, and also as a result of minor differences, such as the degree of distension of the tubes, etc. The slighter changes consisted in the hypertrophy of the mucous membrane, the folds especially becoming elongated, and in many cases even dendritic, so that the lumen of the tube was to a great extent occluded by these folds, only a slight amount of sero-purulent fluid being found in the cavity. The epithelial layer was destroyed on the tips of these folds; but in the recesses between the folds it was intact, the ciliæ even being easily demonstrated. Beneath the epithelial layer the mucous membrane was densely infiltrated with small round cells, this infiltration spreading to the inner parts of the muscular tunic and separating its fasciculi. The vessels of the muscular coat were enlarged and congested. In parts where there was a certain amount of repair, these hypertrophied folds of mucous membrane had grown together at their apices, thus forming elongated spaces. In these spaces lesser cysts had formed in like manner. On section, these had the appearance of small cysts and gland spaces; and it is no doubt this that has given rise to the idea expressed by some writers, that the Fallopian mucous membrane contained glands.

In the more advanced cases, where the tubes were more dilated by pus, the mucous folds were shortened and thickened, the destruction of the epithelial layer being much more extensive; but even in the worst cases there remained some epithelium in the recesses between the folds. The small celled infiltration separating the muscle fasciculi throughout the whole thickness of the muscular layer had developed more or less into fibrous tissue, so that this coat appeared to be three to four and more times thicker than normal. This thickening was, in the majority of cases, purely fibrous; but in some there was also a true hypertrophy of muscle fibres In some cases there were small abscesses near the mucous surfaces, due to necrotic changes in the granulation tissue which had displaced the mucous membrane.

The course of gonorrhœa in the tubes is thus much the same as in other mucous membranes. There is one difference however, instead of the pus escaping, it to a great extent collects in and distends the tubes. This is due to the fact that the abdominal end at an early stage of the inflammation becomes closed and adherent to the ovary or other pelvic organs; the ostium uterinum, which is to begin with an excessively narrow opening, becomes further narrowed by the swelling of the mucous membrane; and thus a pyo-salpinx is formed. If the ostium abdominale is not completely or not firmly closed, an effort on the part of the patient, a push or a fall, may cause pus to escape into the peritoneal cavity, and produce the serious complications of gonorrhœa.

Schmitt concludes his paper by some clinical remarks on gonorrhœa and its frequently accompanying perimetritis. He finds that of 116 cases of gonorrhœa in women, 27 had clinical symptoms of pelvic peritonitis, he gives a brief history of each of these 27 cases, to which we refer the reader. He puts the percentage of implication of the tubes in the process much lower than this, as the perimetritis in the cases referred to, may well have had other causes in many of the cases. It is interesting to note the period at which the perimetritis followed the gonorrhœal infection, although this is of course difficult to estimate very correctly.

According to Bernutz and Goupil, the majority of the cases occurred between the 15th and 30th day after infection, some as early as the 8th, some as late as the 60th day. Some of Schmitt's cases occurred as late as the 5th month, the average being about the same as those of Bernutz and Goupil.

There are two ways in which gonorrhœal infection of the tubes may produce perimetritis. First by direct extension of the inflammation through the wall of the tube, and secondly by escape of pus into the pelvis. Schmitt thinks that a simple inflammation is produced on the peritoneal surface and that the gonococci are powerless to produce any specific effect, such as they do on the tubal mucous surface. About this there can be no doubt, as gonorrhœal pus frequently escapes into the peritoneum during an operation for removal of the tubes without producing any peritonitis, and it cannot be supposed that every particle of pus is removed by an ordinary washing out.

ANATOMY.

BY BERTRAM C. A. WINDLE, M.A., M.D.
PROFESSOR OF ANATOMY, QUEEN'S COLLEGE

Nervous System.—An ideal method of mapping out the brain convolutions upon the scalp is probably yet to be devised, but the numerous researches made in that direction give grounds for hope that we shall not long be without it. Messrs. Anderson and Makins * are the most recent workers in this field. Their observations and results go to strengthen the opinion that fixed rules for mapping out fissures are impossible, owing to the great varieties existing not only in brains, but also in the positions of the fixed bony points generally employed as landmarks. Nevertheless, the suggestions and rules given in the paper are of much practical value to the surgeon. Prof. Cunningham, of Dublin, whose beautiful series of brain models has attracted so much well-deserved admiration, is known to be making some observations on this subject. As regards the growth of the brain, he notes† that the temporo-sphenoidal lobe is placed more horizontally in the child than in the adult, its tip in the latter being directed upwards and inwards, so that the long axis has a curved direction. The vertical measurement of the same lobe, in relation to that portion of the cerebrum which is above the Sylvian fissure, diminishes steadily and uniformly in the course of the growth of the child. Prof. Hamilton's views on the corpus callosum have already been alluded to in a report in this journal. A recent paper‡ contains a further contribution to the subject, with remarks on other fibres of the brain and on the optic thalamus, which last he thinks is concerned in the education of the brain through the optic nerves and corpus callosum. His views have been opposed by Bruce‖ in a long and exhaustive paper on absence of the corpus callosum, in which he shews

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* *Journal of Anat. and Phys.*, vol. xxiii., p. 455.

† *Dub. Jour. of Med. Sci.*, cc., ser. iii., p. 151.

‡ *Proc. Royal Soc. Edin.*, vol. xiv., p. 519.

‖ *Lab. Reports of Royal Coll. Phys. Edin.*, 1889.

that this malformation is not necessarily accompanied by imbecility or even by other mental disturbances, and that the facts learnt from studies of such cases are inconsistent with Hamilton's views. Before leaving the brain it may be mentioned that Dana* has contributed a paper containing his researches on the cortical localisation of the cutaneous sensations. Amongst other practical points he notes that the cortical areas for touch, pain, and probably temperature are identical with the motor areas. The positions of different cutaneous regions are, for the most part, the same as those of the corresponding motor segments, and the areas overlap and diffuse into each other. Dr. Reid† has published the result of his dissections, made with a view of determining the exact position in the adult of the superficial origin of the spinal nerves from the cord in relation to the surface of the body. His tables and illustrations will be of interest to surgeons and physicians, though he is obliged to conclude that the superficial origin of any individual spinal nerve has no fixed and definite relation to the apex of one, or the apices of two spinous processes, or the space intervening between two, as might be gathered from the tables of Nuhn and Jadelot, but that its position varies considerably. As regards peripheral nerves, papers relating to their variations have been published by Brookes‡ and Hartmann.‖ The former shews that the areas of cutaneous distribution of the nerves on the back of the hand are very variable. The latter points out that the course of nerve fibres in general is by no means constant, but that instead of running in their own, they may pass in a neighbouring trunk, thus producing a kind of elliptical arrangement. By this means, he thinks, anomalous symptoms associated with the peripheral nerves may often be explained.

Heart.—Professor Hamilton§ gives the following as the average weights and measurements of the normal heart. Weights

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* *Jour. of Nervous and Mental Disease*, Oct.. 1888.

† *Jour. of Anat. and Phys.*, vol. xxiii., p. 341.

‡ *Internat. Monatssch. f. Anat. u. Phys.*, Bd. v., Hft. 8.

‖ *Bull. de la Soc. Anat. de Paris*, 1888, p. 151.

§ *Journ. of Anat. and Phys.*, vol. xxiii., p. 40.

(average), M. 12–13 oz., F. 10–11 oz.; range, M. 10–16 oz., F. 7–15½ oz.

DIAMETERS OF ORIFICES.

	Greatest.		Least.		Average.	
	M.	F.	M.	F.	M.	F.
	In.	In.	In.	In.	In.	In.
Aortic	1·3	1·0	·9	·8	1·0	·9
Mitral	1·8	1·5	1·1	1·0	1·4	1·2
Pulmonary	1·5	1·3	1·0	1·0	1·2	1·1
Tricuspid	2·2	1·7	1·3	1·4	1·8	1·5

CAVITIES AND WALLS—MEASUREMENTS.

Left Ventricle, 3 in. to 3¾ in. Wall. ¼ in. at thinnest to ½ in. at thickest.

Right Ventricle, 3$\frac{1}{16}$ in. to 3⅜ in. Wall, ⅛ in. all over.

*Brown has made investigations into the occurrence of the moderator band of King in the right ventricle. In 100 hearts examined he found it always present, though of very variable size, and in 15 cases so low down in its septal attachment as to resemble an ordinary trabecula. He believes that it acts indirectly as a "moderator" through the anterior papillary muscle. A well-formed moderator band, he thinks, serves by its contraction to direct the blood stream towards the pulmonary orifice. In many cases of dilated right heart, where the initial stage alone had been reached, he found that the dilatation existed only posterior to the muscle and its accessory band.

Abdomen.—Symington has published several papers on the pelvis and its contained viscera The first† deals with the rectum and anus, in relation with which the writer expresses the opinion that the third part of the rectum, commonly so called, should be described with the anus as the anal canal. The levatores ani assist in closing this portion of the tube. A second paper‡ deals with the bulbo-cavernosi muscles in women, a subject of some interest in relation to their bearing upon the production of vaginismus. His observations were made on the pelvis of a female aged 50. Each muscle was about 1·5 m.m. in thickness, and could not have any appreciable effect in closing the ostium vaginæ. I may here note that I have, during this session, had the opportunity of dissecting these muscles in a young female subject (æt. 22) apparently a virgin and certainly nulliparous Here, although atrophy was out of the question, the muscles were similarly insignificant in size and utterly incompetent to produce the effects ascribed to them.

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* *Journ. of Anat. and Phys.*, vol. xxiii., p. 250.

† *Journ. of Anat. and Phys.*. vol. xxiii.. p. 106.

‡ *Proc. Anat. Soc. Gt. Brit. and Ireland* (*Journ. Anat. and Phys.*) vol. xxiii., p. 2.

A third paper* on the normal anatomy of the female pelvic floor is too lengthy for more than a passing mention here, but will well repay the reader who consults it.

Bodenhamer† calls attention to the small sacculi with upward directed mouths situated around the anus, between the mucous columns. When relaxed, small foreign bodies may lodge in them and lead to troublesome irritation if not to the formation of an ulcer.

Griffiths‡ has a contribution on the Anatomy of the Prostate. The third lobe is often well developed at the time of birth, originates independently of the others and has its own ducts.

Takahasi|| in a paper on the position of the fœtal and infantile bladder states that the viscus is relatively higher in the new-born child than in earlier fœtuses. He accounts for its descent 1, by its intrinsic weight; 2, by the enlargement of the pelvis. In a paper on the normal position of the female pelvic organs Bardeleben§ states that when the bladder is empty, or slightly full, the uterus is normally anteverted, or in children and girls anteflexed. In fuller states of the bladder, it is pushed upwards and backwards, and so may normally lie behind the axis of the pelvis. It generally lies asymmetrically and on the right side. The os externum lies at the level of a line drawn from the upper border of the symphisis pubis to the lower end of the sacrum.

Bryant¶ states with regard to the valves in the intestinal veins,

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* *Proc. Obst. Soc. Edin.*, Jan., 1889.

† *New York Med. Rec.*, May 26, 1888.

‡ *Journ. of Anat. and Phys.*, vol. xxiii., p. 374.

|| *Arch. f. Anat. u. Entwick.*, 1888. Hft. 1. S. 35.

§ *Anat. Anzeiger. Jahrg.*. iii., p. 535.

¶ *Boston Med. and Surg. Journ.*, vol. cxix., p. 400.

that at birth they are quite numerous and especially on the large intestine. In a few months they mostly disappear or become incompetent, only a few remaining in the adult, and those chiefly on the jejunum.

Limbs.—Pye[*] in a paper on the growth of the bones of the lower extremities states that during the second year the thighs grow at first at a rate of a little more than $\frac{1}{7}$ of an inch, and the legs a little less than the same amount each month. The rates gradually diminish until at the end of the year they are $\frac{1}{10}$ and a little more than $\frac{1}{12}$ respectively. During the third year the monthly rate is a little more, and a little less for thigh and leg bone, $\frac{1}{12}$ inch and so on, in diminishing rates until the eighth year, when the monthly ratios have sunk to $\frac{1}{18}$ and $\frac{1}{20}$ inch.

Two papers interesting to orthopædic surgeons have been published by Arbuthnot Lane[†] on the mechanism of the Human Foot, and by Bishop[‡] on the Medio-tarsal Joint from an Orthopædic Point of View.

REVIEWS.

THE CAUSATION OF DISEASE.[||]

THIS work is an attempt to trace out the ultimate causes of disease in general. The author professes to have thought out the subject independently for himself from beginning to end. While there is nothing that is new, striking, or original in the book, yet we do not fail to admire the philosophic spirit with which the writer has investigated some of the gravest problems dealing with the phenomena of life and disease. Moreover, the pleasant discursive style with which he treats his subject contributes not a little to attract the reader's attention. He specially considers two aspects of causation in general—(1) cell or tissue structure; (2) cell environment. Heredity, evolution, natural selection, sexual selection, and most of the much discussed problems of nineteenth century biologists are cited by Dr. Campbell according as his line of thought from time to time suggests some special reference. This kind of material makes an interesting essay, but we doubt much if the pathologist will derive any real information or food for reflection. George Eliot, Charles Dickens, Carlyle, Herbert Spencer, and numerous other authors are quoted with much appositeness to support the writer's views. We may be allowed to quote the doctrine of sexual heredity as enunciated by Dr. Campbell. "The more exclusively a specific E (Environment) acts upon one sex, the greater the number of generations acted upon, the more apt is the resulting variation to pick out that one sex in the offspring. Moreover, a character is more apt to be transmitted along one sex when it is acquired during the period of sexual activity, and it is probably more apt to attach itself to the male than to the female sex. Nevertheless in all cases there is a tendency for the opposite sex to be affected." Dr. Campbell has come to the conclusion, on *a priori* grounds that malignant growths are parasitic in origin. In this connection we find an amount of loose reasoning and rash speculation which is characteristic of those pathologists who prefer the armchair to the laboratory. For example, p. 359, we read "The granulonata are admitted to be caused by parasites, and why not the malignant growths also?" Why not! That is precisely the *quæstio vexata*. Again, "the simplest way of explaining infectiousness is to assume the existence of a parasite, for this gives us an abiding mal-environment, and hence a continuation of the morbid process." Arguments such as these, appealing as they do to analogy rather than to actual observation and experiment, will fail to convince practical minds.

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[*] *Journ. of Anat. and Phys.*, vol. xxiii., p. 116.

[†] *Guy's Hosp. Reps*, vol. xliv., p. 252.

[‡] *Medical Chronicle*, Jan. 1889, p. 285.

[||] The Causation of Disease: an exposition of the ultimate factors which induce it. By Henry Campbell, M.D., B.S. (Lond.). London: H. and K. Lewis. 1889.

THE MECHANISM OF THE CIRCULATION THROUGH ORGANICALLY DISEASED HEARTS.*

In this thoughtful and suggestive book of 64 pages we have a valuable contribution to the literature of the above subject; for although the facts brought forward in it are necessarily more or less familiar, the way in which they are dealt with will be novel to many, and cannot fail to give to anyone who takes the trouble to follow the line of thought here laid before us a more thorough grasp of the relationship between cause and effect in diseases of the heart. This book, as its name implies, deals with the relationships which exist between the amounts of blood entering and leaving the several chambers of the heart under the varying conditions of health and disease, and the consequent alterations in the size of the chambers themselves; but it does not touch at all on the closely allied subject of the causation of cardiac murmurs.

The work bears throughout the stamp of a logical mind well trained in the consideration of physical problems, and is the outcome of matured thought and patient observation; on this very account it does not afford easy reading for a mind not so trained, but requires careful study. It will, however, well repay anyone who so reads it by giving a more exact knowledge of the *forces* which lead to dilatation and hypertrophy of the diseased organ and the way in which they act, thus leading to a clearer view of the morbid condition and of the direction which remedial efforts ought to take.

In the preliminary discussion of the mechanism of the normal circulation and its relation to the function of respiration, the author dwells upon the importance in all cases of heart disease of maintaining the blood in the highest possible state of efficiency with regard to its power of carrying oxygen, a need, although long since recognised in theory, that is still too frequently neglected in practice.

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* The Mechanism of the Circulation of the Blood through Organically Diseased Hearts. By Herbert Davies, M.D., F.R.C.P. Edited by Arthur T. Davies, B.A., M.B. Cantab. London: H. K. Lewis. 1889.

In one or two places the reasoning may perhaps be considered as being rather needlessly complicated and difficult to follow, on account of a strict adherence to a logical mode of proof instead of the acceptance of an apparent fact as self-evident; but this does not detract from the general merit of the work, and need not diminish its general usefulness to the practitioner of medicine.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES.*

Of the various Year-books, Annuals, &c., this is the most pretending, and unquestionably by far the most elaborately compiled. It is said to be the work of seventy Associate Editors and of "over two hundred corresponding editors, collaborators and correspondents," and some idea may be formed of the magnitude of their task by reference to the index which shews that seven hundred and fifty-six periodicals, and two hundred and thirty-four monographs, &c., have been consulted. Moreover, the abstracts given are very well done, sufficiently full, and illustrated by reproductions of the original illustrations wherever required.

As the type is of good size this work reaches the encylopædic length of five royal octavo volumes, each containing about four hundred pages; and includes sections upon every department of medical study. We have gone over several of these and are satisfied that they give a very fair summary of the principal contributions to their several subjects during the year 1888, and that the work of selection has been done with judgment and care. Anyone who chooses to furnish his book shelves with this

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* Annual of the Universal Medical Sciences. Edited by Charles E. Sajons. Philadelphia: F. A. Davis. 1889.

Annual will have a more complete epitome of the progress of medical science than could be otherwise afforded by a large library, while he will have it well arranged, admirably indexed, in his own language, printed in a very legible type and illustrated by plates that compare very favourably with the originals from which they are copied.

The publishers of this annual deserve great credit for the liberal spirit they have shewn in undertaking a work which if it is maintained must prove of immense service to the medical profession.

ESSENTIALS OF PHYSICAL DIAGNOSIS OF THE CHEST AND ABDOMEN.*

This little manual is simple and concise and will prove a useful aid to the student when he is making himself acquainted with the principles of physical diagnosis. The book is evidently the production of one who has had considerable experience in managing tutorial classes. It is practical in its aim, and theoretical discussion as a rule is avoided. There are many references to the teaching of the Glasgow school and more especially to that of Dr. Gairdner. In few respects however, does the author disagree with the principles of auscultation and percussion as compiled by Dr. Gee in his well-known manual. Dr. Anderson objects to the "cracked-pot" sound being compared to that produced by striking the closed hands on the knee. He thinks the true *bruit de pot fêlé* is less hissing in quality, the essential element according to him being the dull tympanitic note such as is heard at a region above the dulness of a pleural effusion. For our own part we believe that the "high pitched tympany," which was first demonstrated by Skoda as a sign to be elicited over the upper part of a consolidated or compressed lung, is rather different in character from the true "cracked-pot" sound of Laennec. On p. 97 we should really read *systolic* for *diastolic*, for it is the systolic sound or murmur which is best heard at the aortic cartilage. Under abdominal auscultation no reference is made to the uterine bruit, funic souffle, or fœtal heart sounds. Indeed, sufficient attention has not been paid to the methods of differential diagnosis of abdominal enlargements. The appendix contains an outline to assist the junior student in reporting cases. The hints for case taking in diseases of the nervous system might well be extended.

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* Essentials of Physical Diagnosis of the Chest and Abdomen. By J. Wallace Anderson, M.D. Glasgow: James Maclehouse and Sons. 1889.

COSMIC EVOLUTION.*

This little book is an essay having for its object the explanation of a theory by which the process of evolution may be extended to the changes that have taken place from the earliest times. The author contends that there is good reason to suspect that the so-called chemical elements are only elemental to such environments as we have been able to devise, but that in an earlier stage of the universe they were formed by the chemical combination of substances at very high temperatures. He suggests that in the primordial fiery vibrating vapour local losses of heat took place, possibly by its being converted into motion, this change of temperature being followed by chemical action, and this would be repeated over and over again, those substances which proved the most inert withstanding the longest the forces of chemical decomposition. The elements are the survivors of this struggle. Only as the intensity of this chemical activity diminished could complex substances have a chance of existing.

Whether such speculations, unsupported by any new facts, are worth publishing may be doubted; but the argument is clearly thought out, and is expressed in intelligible language.

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* Cosmic Evolution: Being Speculations on the Origin of our Environments. By E. A. Ridsdale, Associate of the Royal School of Mines. London: H. K. Lewis. 1889.

A SURGICAL HANDBOOK.*

This is the "Minor Surgery and Bandaging" of other authors under a new name, and as both those responsible for the book are Assistant Surgeons to the Royal Infirmary, Edinburgh, we may assume that, in addition to the general information contained, there are some details more or less characteristic of the great northern school. It is impossible to offer minute criticism of a work of this kind, as there are extremely unlikely to be any gross errors, while there must be dogmatic assertion on points where differences of opinion exist amongst competent surgeons. On the whole we can say that this Handbook is equal to its fellows, that illustrations are used most liberally and that it is presented in an attractive binding and printing. Perhaps if it has a fault it is that too much has been attempted, as instances of which we may mention chapters on massage, plaster-casting, examination of the urine, and *post-mortem* examination.

ERNST'S GUIDE TO THE SELECTION OF ORTHOPÆDIC APPARATUS.†

A new edition of this useful book is now published containing a very complete description of the apparatus used by orthopædic surgeons together with very good illustrations of the same, in number over two hundred. Those not familiar with the various instruments will find this "Guide" of much assistance. Mr. Ernst is careful as a rule not to offer an opinion which trenches on the domain of the surgeon, but he makes one exception to this, and a rather unfortunate one, on page 29, when he says "that there exists a necessity for some support to the spine in all cases of spinal curvature."

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* A Surgical Handbook. By Francis M. Caird, F.R.C.S. Ed., and Charles W. Cathcart, F.R.C.S. London: Charles Griffin and Co.

† Ernst's Guide to the selection of Orthopædic Apparatus. London: Sprague and Co.

DEFECTS IN PLUMBING AND DRAINAGE WORK.*

Some few years ago a Society was founded in New York with the object of exterminating the plumber, but we do not know that it has succeeded. At any rate in England we still suffer from the race, and Mr. Vacher, who is so well known as one of the best medical officers of health in the country, has done good service by publishing this account of plumbing defects which have come under his observation, as a warning to householders, medical officers of health, and sanitary inspectors, of what they may expect, and to plumbers of the need there is for better training in their trade and for more efficient supervision of their workmen.

It should be carefully read by all householders and especially by all who have the administration of large establishments with numerous inmates, public institutions, &c.

STRATHPEFFER SPA.†

This handsome little volume gives an excellent account of Strathpeffer, the Harrogate of Scotland. The waters are cold sulphuretted; the season is said to be from May to October; and to those who like the Highlands of Scotland—and who does not?—Strathpeffer may be recommended as likely to do all that Harrogate does for struma, skin diseases, gout, rheumatism, etc.

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* Defects in Plumbing and Drainage Work. described by Francis Vacher. John Haywood. Manchester and London. 1889.

† Strathpeffer Spa: Its Climate and Waters. By Fortescue Fox, M.D. Lond. London: H. K. Lewis. 1889.

A GUIDE TO THE INSTRUMENTS AND APPLIANCES REQUIRED IN VARIOUS OPERATIONS.[*]

Most surgeons have at times felt anxiety lest they should forget some instrument likely to be needed in an operation away from home; and all are familiar with the tradition of some celebrated operator who omitted to take a saw with him when he was going to amputate through the thigh. Mr. Robson's little book should obviate any such mistakes, as it contains lists of instruments for practically all operations: though he acknowledges that some of the lists will need modification to suit the requirements of different surgeons.

House-surgeons, whose business it is to lay out the things necessary for an operation, will also find this "Guide" of much use.

AMERICAN RESORTS.[†]

This work is a sort of medical guide book to the United States of America, "intended for invalids and those who desire to preserve good health in a suitable climate." It is well written, furnished with a good map, and supplies a great deal of detailed information about the various health resorts which no doubt will prove very useful to those practising medicine in the country it describes.

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[*] A Guide to the Instruments and Appliances Required in Various Operations. By A. W. Mayo Robson. F.R.C.S. London: J. and A. Churchill.

[†] American Resorts: With Notes upon their Climate. By Bushrod W. James, A.M., M.D. Philadelphia and London: F. A. Davis. 1889.

Miscellany.

THE MICROBE OF PHTHISIS IN THE EIGHTEENTH CENTURY.

Mr. T. Law Webb, of Ironbridge, sends us the following note :—"In an old work by Benjamin Martin, M.D., published in 1720, entitled 'A new Theory of Consumptions,' the author thus prophesies the tubercle bacillus, and foreshadows the modern theories as to the pathology of Phthisis and its communicability." He says, (p. 51)—

"The *original* and *essential Cause* then, which some content themselves to call a vicious Disposition of the Juices, others a salt Acrimony, others a strange Ferment, others a malignant Humour (all which seem to me dark and unintelligible) may possibly be some certain Species of Animalcula or wonderfully minute living Creatures, that, by their peculiar Shape, or disagreeable Parts, are inimicable to our Nature ; but however capable of subsisting in our Juices and Vessels, and which being drove to the Lungs by the circulation of the Blood, or else generated there from their proper Ova or Eggs, with which the Juices may abound, or which possibly being carried about by the Air, may be immediately convey'd to the Lungs by that we draw in, and being there deposited, as in a proper *Nidus* or Nest, and being produced into Life, coming to Perfection, or increasing in Bigness, may by their spontaneous Motion, and injurious Parts, stimulating, and perhaps wounding or gnawing the tender Vessels of the Lungs, cause all the Obstruction, Inflammation, Exulceration, and all other the *Phænomena* and deplorable Symptoms of this Disease."

"It seems probable that the Animalcula or their Seed, which we have suppos'd to be the Essential Cause of a *Phthisis* or Consumption of the Lungs, are for the most part either convey'd from Parents to their Offspring Hereditarily, or communicated immediately from distemper'd Persons to sound Ones who are very conversant with them.

"So that it is very likely, that by an habitual lying in the same Bed with a Consumptive Patient, constantly Eating and Drinking with him, or by very frequently conversing so nearly, as to draw in part of the Breath he emits from his Lungs, a Consumption may be caught by a sound Person ; for it may be reasonable to suppose that if the Blood and Juices of such distemper'd People, be charg'd with vast Quantities of *Animalcula*, as I have conjectur'd, then their profuse Sweats, and their Breath also, may be likewise charg'd with them, or their *Ova* or Eggs, which by that means may possibly be convey'd into the Bodies of those who lie, or are most conversant with them.

"It may here probably be objected that if this is so, few that come near a Consumptive Person would escape that Distemper ; but in Answer to this I imagine that *slightly* conversing with Consumptive Patients, is seldom or never sufficient to catch the Disease, there being but few if any of those minute living Creatures or their Eggs communicated, and those that are, may not perhaps be produced into Life or nourished and increased ; besides we may imagine that some Persons are of such an happy Constitution, that if any of the *Ova* happen to get into their Bodies, they may likewise be quickly forced out again before they are produc'd into Life ; or else be wholly destroy'd by finding the Soil unsuitable."

THE MONGOOSE STORY.—The attention of the passengers was intently directed upon a curious cage-like package, tied up in a coloured handkerchief, which he held very carefully upon his knees. It was not very long before curiosity compelled a neighbour to ask him what he had there in the cage. "A mongoose," he replied. "What's a mongoose?" "Oh! a beast that kills snakes. You see, I've got a friend who is very ill, and says his room is full of snakes ; so I'm taking him this to rid him of them." "But those aren't *real* snakes," objected the neighbour. "Well, my friend," said the old fellow slyly, "and *this aren't a real mongoose*."

An Enthusiastic Jennerian.—A happy father out on Massachusetts Street, Buffalo, had his first child. a girl three months old. vaccinated the other day. "By George, isn't that great!" he exclaimed, as he saw the doctor at work. "By Jove! why, I guess I'll call her by that name! Vaccine? Why that is a girl's name. ain't it? Vaccine Virus Saunders! Capital! People will think we are descended from some old Roman family. Dear little Vaccine!" The mother strongly objected to this appellation for her first-born. She wanted it named Imogene, but the father was determined, and Vaccine Virus Saunders she will go through life. Her diminutive will probably be "Vacksy."—*Western Medical Reporter.*

New Books, etc., Received.

The Diseases of Children, Medical and Surgical. By Henry Ashby, M.D. Lond. and G. A. Wright. B.A., M.B., Oxon. London: Longmans, Green & Co. 1889.

A Modern Superstition in Disease; the germ theory reconsidered. By Lewis Sanders.

American Resorts with notes upon their climate. By Bushrod W. James, A.M., M.D. Philadelphia and London: F. A. Davis. 1889.

On the Respiratory Functions of the Nose. By Greville MacDonald, M.D. London: Alexander P. Watt. 1889.

Medical Handbook of Life Assurance. By James Edward Pollock, M.D., F.R.C.P. and James Chisholm. Cassell & Co., Ld. 1889.

The Queen's College, Birmingham. Calendar for 1889-90. Hudson & Son, Printers, Edmund Street, Birmingham.

Father Damien: A journey from Cashmere to his home in Hawaii. By Edward Clifford. London: MacMillan & Co. 1889.

A Textbook of General Therapeutics. By W. Hale White, M.D., F.R.C.P. London: MacMillan & Co. 1889.

Cyclopædia of the Diseases of Children. Medical and Surgical. Edited by John Keating. Vol. I. Philadelphia: J. P. Lippincott & Co.

⁂ Authors can have reprints of articles at the following rates:—

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THE
BIRMINGHAM MEDICAL REVIEW.
SEPTEMBER, 1889.

ORIGINAL COMMUNICATIONS.

THE PRINCIPLES OF INFANT FEEDING.

BY ALFRED H. CARTER, M.D. LOND.
SENIOR PHYSICIAN TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

(*Continued from page 92.*)

THE conditions which determine the quantity of food required by an infant are twofold—on the one hand there must be enough to satisfy the needs of growth and development, and on the other hand, no more than the stomach can conveniently hold. When a child ceases to grow, taking food greedily, vigorously sucking its thumbs (often to soreness), whining and peevish, especially at night, with nothing apparently wrong with the food, and with no sign of gastro-intestinal disorder, we may be pretty sure it is being underfed. The remedy is obvious. Sometimes again a child is reported as giving no trouble, sleeping well—in fact unnaturally so—with no sign of any ailment, and yet shrinking rather than growing. More often than not, in such a case, the bulk of food is sufficient, but its quality is too poor from over-dilution.

The quantity of food which should be given at one meal practically depends upon the size of the stomach. It is true that when food is taken beyond the comfortable capacity of the stomach the excess is readily rejected by an infant, but by frequent regurgitation the organ is apt to become unduly irritable. As a rule its average size during the first week does not exceed an ounce. From this time forward it increases—roughly speaking

—at the rate of about an ounce a month up to six months of age; but doubtless this varies not a little, according to the size and rate of growth of the child. Mistakes of quality are often associated with those of quantity, but habitual excess is alone responsible for many cases of chronic vomiting. The average capacity of a feeding bottle is seven to eight ounces, but a child cannot usually accommodate this quantity until about six months old.

Absolute regularity of the interval between meals should be insisted upon; though of course such intervals should be longer by night than by day, and longer as the child grows older. With very little trouble a healthy baby may be trained to wake at definite times for food; but in order to secure this happy result it is of cardinal importance to give no food at other times. Regularity in feeding is not only desirable in the interests of healthy digestion, but it constitutes a moral discipline of the highest value in infant training.

The average frequency of meals for different ages up to six months is set forth in Table C. Ten meals in 24 hours means about every two hours during the day and about three times at night; nine meals, every two hours during the day and twice at night; eight meals, every two hours during the day and once at night. After about four months of age a healthy child should not require food at all between 10-30 p.m. and 6 a.m. Not only is there no objection to a child drinking plain water to its full desire at any time, but it is advantageous; it facilitates metabolism, it helps the action of the bowels, and dilutes the urine, and thus prevents the discomfort which so often arises from irritation of the urinary passages by over-concentration.

TABLE C.

Age of Child.	*Quantity at each Meal.*	*No. of Meals.*	*Total Quantity of Food.*
2–3 days	1 ounce	10	10 ounces
1st week	1½ ounces	10	15 ,,
1–2 months	2–2½ ounces	9	18–24 ,,
2–3 ,,	3–4 ,,	8	24–32 ,,
3–4 ,,	4–5 ,,	7	28–35 ,,
4–5 ,,	5–7 ,,	6	30–42 ,,
5–6 ,,	6–8 ,,	6	36–48 ,,

With regard to the mode of feeding, there are also some points which deserve mention. In spite of the advantage which strictly belongs to the so-called slipper-bottle, that which is fitted with a long rubber tube is so very much more convenient that it is no wonder it holds the field against other patterns. The chief difficulty consists in keeping the tube clean; and for this purpose it is usual to rinse it and to draw a brush through it and allow it to stand in water until the next meal. This plan may be further improved upon by the employment of a fairly strong solution of borax in the place of pure water; and probably it is better still to sterilize the whole apparatus by thoroughly steaming it for fifteen minutes in a saucepan before each meal. This last proceeding is especially desirable in hot weather; and it is quite easy to perform. Another very necessary precaution is to prevent the child from bolting its food. This can be very readily managed by judicious regulation of the amount which passes through the tube by pressure of the latter by the finger against the flat end of the stopper. Where there is a marked disposition to vomit, it is often better to feed with a spoon rather than with a bottle. There can be no doubt that faults in the mode of administration, in the regularity and frequency of meals, and in the quantity given at once, are equally if not more common than faults in the quality of food. When a child's food is stated to disagree, it is too often assumed forthwith that it is inappropriate in kind; a change is effected with no better result; indigestion or gastro-enteritis probably supervenes, and the difficulty of the whole problem is immensely increased.

At this point it may be desirable to state that among the signs of suitability of food, there are two of especial importance, both of which are easily ascertained. The one is the rate of growth, as indicated by increase in weight, and the other is a normal condition of the fæcal discharges. The following table sets forth the average rate of growth in a healthy infant up to twelve months of age. Of course departures from these averages are often met with in individual children compatible with good health; but the present intention is to emphasise the importance of clear standard notions on the subject.

TABLE D.—AVERAGE INCREASE IN WEIGHT.

Age.		*Per Week.*	*Per Month.*
1st month	...	7·5 oz.	30 oz.
2nd "	...	7·6 "	30 "
3rd "	...	6·7 "	27 "
4th "	...	5·5 "	22 "
5th "	...	4·4 "	17 "
6th "	...	3·6 "	14 "
7th "	...	3·1 "	12 "
8th "	...	2·8 "	11 "
9th "	...	2·7 "	10 "
10th "	...	2·0 "	8 "
11th "	...	1·8 "	7 "
12th "	...	1·4 "	5 "

From the above table, it will be readily seen that the rate of growth is about twice as rapid during the first, as it is during the second half of the first year. To begin with, the increase is roughly at the rate of about an ounce *per diem*, gradually diminishing to about half an ounce *per diem* at six months of age, thence falling somewhat rapidly to about $\frac{1}{6}$ ounce on the completion of the first year. But whatever the absolute rate of increase may be in a given instance, the relative rate in a healthy child who is doing well always corresponds approximately with the figures given, so far as I have been able to judge from a limited number of regularly observed cases. It is a good plan to take the accurate weight of a child at least once a week for the first three months at any rate, and afterwards less frequently, and any serious irregularity in the rate of growth should at once attract attention to the quality and quantity of the food, and the mode of feeding.

A normal motion should be of an uniform pale yellow colour, homogeneous in character, semi-solid consistence, and not specially offensive. Any departure from these features points to gastro-intestinal disturbance, and is probably the outcome of unsuitability in connection with the food.

Although in a majority of cases, disagreement of food has some direct causal connection either with the food itself or the conditions under which it is given, yet it must not be forgotten that disagreement often depends upon a morbid condition on the part of the child. Such morbid conditions it is true are not infrequently primarily induced by inappropriate feeding, but when once set up they become in themselves a reason why ordinary food disagrees, be the latter never so carefully prepared, or faultlessly administered. I allude to such conditions as indigestion, constipation, diarrhœa, chronic vomiting, and flatulence. Indeed, it generally happens that, when called in to advise respecting the malnutrition of an infant, we find it suffering from some ailment which has originally been either in part or altogether induced by faulty diet, and requiring some temporary suspension or modification of food before it can return to any standard diet, and to which it can be led only by degrees. On the other hand, morbid conditions may interfere with proper assimilation which have no causal connection with the food, and at the same time demand an entire re-adjustment of the ordinary diet. In a short paper like the present, the latter cannot be dealt with, as it would involve a description of the dietetic management of all the diseases to which children are subject; but a few hints may be given about the management of two or three common diet diseases.

Among diet disorders none is more common than constipation, dependent upon one of the following causes—insufficient quantity of food, defective supply of water, excess of starchy food, lack of sugar or fat, gastro-intestinal catarrh from indigestible food, and simple debility. Nothing can be more objectionable than the routine treatment of infantile constipation by the routine administration of aperients or enemata. The former are especially injurious, and if recklessly resorted to are almost sure to increase the trouble in the long run. Constipation in young infants at the breast is generally relieved by giving a teaspoonful of syrup before nursing. Again, a liberal supply of water is beneficial in most cases of constipation, and may be curative in some. In a child fed on barley water and milk the substitution of oatmeal water may be tried; and in children over six months old a teaspoonful of fine oatmeal added to the first meal of the day often has the desired effect. In young children who are growing rapidly, and are thin, nervous, and irritable, the systematic administration of fat and saccharine matter in the shape of codliver oil and malt extract is most advantageous. As a subsidiary precaution it is most important to protect the lower extremities from cold; and it is a good plan to thoroughly chafe the feet, legs, and abdomen—night and morning —of all young children who are especially prone to habitual constipation. It is impossible to lay down rules to meet every case, and enough has probably been said to emphasize the desirability of a strict inquiry into the diet before resorting to aperients or enemata. It is well to be especially careful in the investigation of any case in which constipation is associated with sickness, from the possibility of its being due to intussusception or brain disease; and in cases where the bowels are not only confined but the act of discharging is obviously painful, the anus should be carefully examined for fissure. I have recently seen a curious case of obstinate constipation in an infant, associated with phimosis, which resisted all usual treatment, but was greatly relieved after circumcision.

Acute disturbance of the stomach and bowels characterised by vomiting and diarrhœa requires very strict dieting. These two conditions are often associated. Children exhibit, as is well known, a special tendency to generalisation of inflammatory mischief. For instance, catarrhal sore throat quickly extends to the larynx, laryngitis to the bronchi, bronchitis is especially apt to lead on to pneumonia, pneumonia is almost always catarrhal (associated with bronchitis). In the adult we meet with gastritis, duodenitis, ileitis, typhlitis, and proctitis, each confined more especially to particular tracts of the alimentary canal. In children this is rarely or never so, but gastro-enteritis and entero-colitis are common. Gastro-enteritis is often induced by chill, but more frequently it is due to some error in feeding. In all but the mildest cases milk should be avoided in the first instance, and barley water should be substituted, given nearly cold, and in small quantities. Whey, rice water, or a teaspoonful of Mellin's food dissolved in a teacupful of water, or the white of an egg dissolved in half a pint of water with the addition of 1–2 teaspoonfuls of pepsine wine may be used instead of barley water. A very good preparation is one which I think was originally recommended by Jacobi, namely, five or six tablespoonfuls of thin barley water, the white of an egg, a teaspoonful of good whisky or brandy, with the addition of a little salt and sugar. A teaspoonful of this may be given every quarter of an hour, or oftener, according to circumstances. Beef tea and animal broths should not be given until the diarrhœa ceases. Broths are less likely to cause diarrhœa than beef tea; and of animal broths, that made from mutton perfectly freed from fat is best, chicken broth coming next in value. In very severe cases, especially in those in which the vomiting is serious, it is far better to keep the child from food of every kind for six hours or longer, or at the most allow only small quantities of water with the chill just taken off. As convalescence begins, a cautious return to ordinary diet may be made by the addition of a small quantity of milk (gradually increased) to the barley water or otherwise.

In chronic diarrhœa dietetic treatment is equally important. First, see that the food which the child is taking is really good of its kind, and conformable to standard requirements; this failing, the next step should be to reduce the quantity of food, and farinaceous and saccharine ingredients should be diminished or cut off altogether. Chronic diarrhœa in young infants is sometimes dependent upon abnormal irritability of the stomach, not unfrequently induced in its turn by feeding too quickly, and I have seen cases in which much benefit has been derived from the simple precaution of slow feeding (by spoon if necessary) and the addition of some warm carminative to the food. The action of carminatives is not exactly understood, but it seems to me very plausible to assume that their beneficial effect is largely due to the power which the aromatic oils have of lowering the sensibility of sensory nerve-endings when brought into close contact with them. Their "stimulant" action in the expulsion of wind is probably to be explained in the same way, by their rendering the bowel less liable to irritation from irregular distension with flatus, and thus indirectly converting disorderly, inefficient, and painful contractions into orderly and effective peristalsis.

Flatulence and colic occur from one of two causes—insufficient food or indigestion. The former is most common in infants suckled at the breast, and is usually quickly remedied by supplementing the diet with some simple artificial food. In flatulence and colic arising from indigestion, our first care should be to enquire whether the child is not taking too much food, or taking it too quickly. These are perhaps the commonest faults. Or, again, the food may be wrong in quality, under which circumstance it should be regulated on the lines already laid down. It is frequently necessary at first to dilute the food below the standard, and to give in rather smaller bulk at one time until the stomach has regained its tone and vigour. The addition of a small quantity of bicarbonate of soda or a few grains of Benger's pancreatising powder to each meal is often of great service.

Occasional vomiting in young children is usually of little importance, and calls for no special remark; but if frequently repeated, either the diet is at fault or it is the result of some serious mischief, nervous or otherwise; and it is sometimes next to impossible to distinguish this latter variety in the first instance. With suckled infants chronic vomiting is usually due to over supply of milk—either too much or too often. When dependent upon undue irritability of the stomach and acid indigestion, slow feeding with diluted food in moderate quantity should first be tried; if this fails, well diluted condensed milk, or Savory and Moore's peptonised milk, sometimes succeeds; while in the worst cases, where the child seems to be unable to deal with milk in any form, I am accustomed to pass gradually through some such series of foods as this: (1) Thin barley water, whey, weak solution of white of egg with added salt, or thin white-meat broth; (2) any of the same slightly thickened with

Mellin's, Nestlés, or Savory and Moore's food, or a little baked flour; (3) cautious addition of milk, first to one or two meals in very small quantities, and afterwards oftener and in larger proportion, till I get on to something like a standard food. All food should be quite cool, and given slowly with a spoon if necessary.

Space will not permit of my entering further into the treatment of diet-diseases; and, in order to emphasize the greater importance of attention to the dietetic management of these common ailments, I have purposely avoided saying anything about medicinal treatment, satisfied though I am as to the adjuvant value of drugs if properly used.

Just a word in conclusion as to the importance of detecting the earliest indications of malnutrition. When begun early the adjustment of the diet may be simple; when neglected until the digestive apparatus has become seriously compromised the difficulties of the problem are immensely increased, and may be insurmountable. Again, while the value of rules and fixed methods is undoubted, as indicating the principles on which we should proceed in the artificial alimentation of infants, they cannot supersede the necessity of independent and intelligent judgment of each case on its own merits.

NON-TUBERCULAR PULMONARY CAVITIES.

BY ARTHUR FOXWELL, B.A., M.B. CANTAB., M.R.C.P.
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(Continued from Vol. xxv., p. 331.)

This, the second, portion of my paper I wish to devote to the consideration of the *treatment* of these cavities, and in the first instance desire to point out the results of Nature's unaided efforts at cure, and the dangers attending these.

Jurgensen, speaking in general terms, states that recovery is not so very uncommon—this he says in 1876, before their surgical treatment had entered the range of practical medicine, for the first recorded case of this is, I believe, that of Radek in 1878 (*Centralblatt für Chirurgie*, No. 44, 1878, p. 750). He thinks the prognosis, however, decidedly unfavourable, if the cause be due to infective emboli, putrid bronchitis, bronchiectasis, and sometimes also after acute pneumonia. It is, too, much more unfavourable when the upper lobe is attacked: this is evident for two reasons—1st, the lower lobes are very likely to become diseased from overflow and gravitation of discharge into them; and 2nd, the upper chest lends itself much less readily to the contraction of lung necessary for the healing process to take place. In the seven cases reported by Leyden and Jaffé, 3 were in the upper and 4 in the lower lobe: the 3 upper all proved fatal. Of the 4 lower, 2 were completely cured, 1 incompletely, and the 4th was progressing favourably at the date of the report.

But imperfect recovery is, after death, the commonest result if Nature be left to herself: a pyogenic cavity or cavernous system forms by which large quantities of pus are daily secreted. The system may withstand this for years—two to ten or fifteen—but sooner or later it breaks down under the exhausting drain, and death results much as it does in cases of unhealed psoas abscess—with lardaceous and fatty degeneration. But other dangers also exist: the anatomical structure of the lungs and their functional activity lend themselves greatly to auto-infection, and also to infection from without. Finally, their disease lessens the oxidation of the blood, and hence of the tissues generally, thus diminishing the vitality of the whole organism and laying it especially open to pathological degeneration and to the inroad of germs.

The question of *tubercle* thus arising in previously thoroughly sound organisms is one of great interest and must be my apology for quoting the two following cases:—

The first occurred in the practice of M. Varnier, and is reported in the *B.M.J.* for 1887, vol. i., p. 351. A male, previous and family histories excellent. Three days prior to admission he complained of stitch in his left side. There was some dulness at the posterior base, but no fever. Eighteen days later this dull area was punctured and hooklets withdrawn. The next morning he expectorated hydatids with clear liquid and blood, whilst hydropneumothorax developed. The chest was then opened, but nothing escaped, though the next morning hydatid *débris* was seen on the dressing. One month later he died.

The *post mortem* shewed a hydatid sac at the base of the left lung, which was separated from the chest wall by only a thin portion of lung. In both lungs there was recent miliary tuberculosis, which M. Varnier suggests was due to infection through the wound.

On the other hand, Professor Gairdner shewed, at a Glasgow Society in Jan., 1886 (*B.M.J.* i., 1886, p. 21), the lung of a man, aged 66, who had frequently been under treatment at the Glasgow Infirmary with symptoms of bronchitis and emphysema accompanied by considerable probably bronchiectatic excavation at the left base, which, however, added but little to the gravity of his symptoms. The patient stated that he had been very liable to bronchitis since an attack of "inflammation of the lungs thirty years ago." He had had three wives, all of whom had died of phthisis or scrofulous disease. By these sixteen children had been born to him, of whom but one, the first child of the first wife, was alive in 1883. He had therefore been excessively exposed to tubercular virus.

At the *post mortem* there was one largely dilated bronchus and many smaller ones, but *nowhere was there any deposit of tubercle.*

That the bacilli of tubercle *do* exist in these cavities there can be no doubt, for they have been found in the expectoration as well as in the cavities themselves. In the sputum of a gentleman suffering from double bronchiectasis (*vide* p. 322) I found a few imperfect bacilli as well as some spores. Indeed, as Dr. Filleau, in an able monograph on the treatment of phthisis, remarks : "Bacilli may be found even in strong and healthy individuals; that is to say, in those who exhibit no tubercular taint. They are constantly found in those who live long in close proximity with tubercular subjects. To cite only one example, we have repeatedly examined our own sputa, and have regularly observed in them several bacilli and a few spores. We even preserve a very remarkable slide on which is seen a large epithelial cell closely resembling a giant cell, inside which are five undoubted bacilli. The preparation was made by Ehrlich's method, and is of so typical a nature that one could swear it came from a tubercular patient. However, it was furnished by one of us, of whose health," he naïvely goes on to say, "there can be no shadow of a doubt." In fact, there can be no doubt that bacilli glide in through our vocal cords along with many other impurities, but luckily, as a rule, only to find themselves on a barren and sterile soil, in which they live with much the same kind of vitality as frogs exhibit when they dream away our long inhospitable winter—a winter to them barren and unfertile, in which they neither marry nor are given in marriage. But—and this is the point to remember—the bacilli are there, ready to revivify themselves should the soil at any time change to a more kindly nature. Further, the tubercle bacillus has a great persistency of life; for MM. Chantemesse and Widal (*Archives de Médecine Expérimentale*, i. i., 1889) have found it capable of reproduction after fifty and seventy days' exposure to sterilised Seine water. Tubercle cannot arise without bacilli, and yet these are harmless in an unfertile soil. Bacilli we have always with us, hence the grave importance of denying them any fertility of soil.

Bis dat qui cito dat must then be the motto of all our efforts. We all know how almost interminable is the course of a one-sided fibroid phthisis. And how is the end at last reached? "In most cases," says Douglas Powell, "sooner or later the opposite lung is affected and *generally with grey tubercle*, unless an intercurrent disease cut off the patient." As Hilton Fagge has well said, "Tubercle is the product of a modified inflammation." It is our duty then to do what we can to prevent this modification taking place.

But though I have spoken somewhat despondingly of its power if left alone, yet we must not forget the virtue of the *vis naturæ* residing in each one of us. After all, even in the matter of tubercle, it is but a question of degree: the physiological fades imperceptibly into the pathological. With some of us the bacillus would never have the ghost of a chance; with others, the first break down of lung tissue would enable it to win an easy victory; while the bodies of most of us lie between these two.

The means at our disposal for the treatment of lung cavities are the following :—

1. Calisthenics.
2. Exhibition of drugs by the stomach.
3. Exhibition of drugs by the trachea.
4. Exhibition of drugs by subcutaneous injection.
5. Exhibition of drugs by their injection into the cavities themselves.
6. Incising the cavity and draining it—1st by an ordinary tube, 2nd by perflation.
7. Resection of the diseased lung.

1. *Calisthenics* ("exercises for health, strength, or elegance") are naturally of service only when an outlet for the discharge of the contents of a cavity has already been formed. But as it is extremely rare for even a single cavity to caseate and dry up without rupture into a bronchus, this limitation is not of much importance. They are of use in these ways :—1. To increase the movement of the lungs, thus increasing the oxidation of the blood, and so tending to obviate the fatty and lardaceous degeneration of the body generally, and to improve the circulation and vitality of the lungs themselves; in fact, to give them the advantages of *passive* exercise. 2. By placing the body in a suitable position, they enable the cavities to drain better. Thus, Dr. Douglas Powell advised a patient of mine to lie on a couch two or three times a day, and to lean over first on one side and then on the other, the head thrown somewhat back and nearly reaching the ground, whilst the uppermost arm is extended behind it and the lower beneath the body. In this

way the upper half of the chest tends to be distended and the lower contracted, so that the bronchial tubes of the former would be as patent as possible, whilst the larynx, being the lowest point, and the base of the lung the highest, gravity would induce the secretions to flow out of the mouth.

The Pneumatic Cabinet is a mode of producing pulmonary calisthenics which is perhaps more useful in the prevention than cure of cavities, *e.g.*, in re-expanding collapsed lung, etc.*

I feel convinced that the difficulty of getting patients to carry out any calisthenic proceedings with perseverance has prevented these obtaining the high therapeutic position they would otherwise have held.

2. *Exhibition of Drugs by the Mouth.*—The number of these is legionous and I shall best consult your advantage by confining myself to one of which I have had fair trial. I mean *Iodoform.* This is a drug containing 96 per cent. of nascent iodine : it is not perceptibly soluble in water but is so in fixed or volatile oils ; it is therefore best exhibited in pills, capsules, or cod liver oil, or it may be dissolved in oil of eucalyptus (which is itself of very high value in pulmonary complaints), and a few drops taken on sugar. It is very unirritating and is very slowly absorbed from the stomach, traces being found in the urine three days after the ingestion of a dose. Its absorption is probably aided by the fat in the food (Brunton). Its utility in lung disease was first pointed out by Semmola in 1878 ; he had used it in cases of bronchial catarrh, asthma, and bronchopneumonia ; he also found that cases of incipient phthisis were cured by it, and that in even advanced cases expectoration is lessened, cough and fever abated, caseation arrested, and life prolonged.

Dreschfeld used it in a large number of cases and found increase of weight and appetite, with lessening of temperature, night sweats, cough and expectoration.

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* For details regarding this cabinet and the principle of pneumatic differentiation. see a report by myself in this *Review* for October, 1887, and also Dr. Theodore Williams in his Report to the Medical Society of London in the *Brit. Med. Jour.* of May 4th, 1889.

Shingleton Smith in 1884 gave an analysis of 46 cases, shewing that in 29 there was an absolute increase of weight under its use, and that in the remaining 17 the loss of weight was small, and in many of these the wasting, which had been rapid, was more or less completely arrested.

During the whole of 1887 I used it in all my cases of phthisis in the out-patient room. I began with gr. j. t.d.s. and did not exceed gr. 12 per diem. Out-patient statistics are scarcely worth recording arithmetically, but my general impression is that with it I obtained considerably better results than by any other drugs I have used. It was always well borne for months together. It certainly acted as a pulmonary sedative, greatly relieving the symptoms of irritation and so rendering the lives of the patients much happier, but whether it effected any radical change in the lung condition or whether the patients gained weight I do not know.

In a private patient with bronchiectasis I gave it with a double quantity of tar—gr. j. iodof., and gr. ij. tar—to the pill. He began with six pills daily, and increased these in two months to 22, at the end of which time all his moist sounds and rhonchi had vanished, his cough was much less troublesome, and he had gained 3-lbs. in weight.

Another man, with pulmonary hydatids in both lungs, who has been under my care three years, and who had symptoms referable to these for three years previously, has also taken iodoform for months at a time. In his case I pushed the drug to 30-gr. per diem with doubtful result on his symptoms. I may say here that Lazansky gave as much as 90-gr. a day in syphilis (Wood); but Shingleton Smith considers 30-gr. the safe limit, whereas he considers that to render the whole body antiseptic as much as 40-gr. must be exhibited.

But here we must remember the slow excretion of the drug; indeed, M. Mracek in 1882 injected 85-gr. in thirteen days, and found that during these thirteen days only 20-gr. were excreted, leaving 65-gr. still in the body. It is thus easy, by giving 30-gr. daily, to keep 40-gr. or even 60-gr. constantly in the body. But

I feel convinced that as much as 40-gr. is not necessary. Dr. Shingleton Smith's calculation is based upon the supposition that a human being is a mass of inert flesh, weighing so many pounds, and requiring so much per pound of a germicide to keep it from putrefying; but he forgets the *vis naturæ.* "Now by my faith," says Dr. Filleau, "we are no mere culture *bouillons.*" Diseased nature only requires *assistance.* She is like an over-burdened horse striving with his load up a steep hill-side. But, though the horse should come to a weary standstill, yet will his owner not forget his strength, and will seek far less help than if the horse were dead.

3. *Exhibition of Drugs by the Trachea; that is, Inhalations.*—Besides having a calmative effect on the larynx, trachea and large bronchi, I must say I have never seen much benefit arise from this method of medication. I have never, for example, seen the fœtor of bronchiectasis remedied by them. I admit that opinions as to their value are greatly at variance; but this very variance is sufficient to make one hold aloof from a method of treatment which is both laborious and unpleasant to the patient, and must indirectly do him harm by limiting his respiration. If they are employed, a solution of iodof. gr. 20, ol. eucal. ♏ 20, rect. spirit ℥ ss., ether ℥ ss. will be found very serviceable. It should be used on a sponge in a naso-oral inhaler twice a day for two hours at a time. In chronic cases inhalations of medicated steam should be avoided, on account of the relaxing action of the water vapour on the throat and trachea making these very troublesomely liable to catarrh. To the inhalation of cold pulverised fluids this objection does not apply.

4. *Sub-cutaneous Injection of Drugs.*—Clinically this has many disadvantages as compared with administration by the mouth, and theoretically it has no advantage, and must be administered in proportionately equal quantities. For an acute effect it is of course much to be preferred; but in these cases we prefer to gradually get our patient under the full influence of the drug, and so avoid the danger of any unpleasant symptoms. There does not therefore at present seem any reason for making use of this method.

5. *Intrapulmonary Injections.*—This is a method of treatment which holds out considerable hope for the future. There are already a great number of cases recorded in which it has been tried [Pepper, Beverley Robinson, Ransom, etc.]; naturally most frequently in tuberculosis. That with care it is a comparatively harmless procedure seems well proven. Prof. Riva, of Pavia, made upwards of one hundred injections of 40 to 50 cc., each of a 1 in 3,000 solution of mercurial bichloride, with no ill result. Dr. Shingleton Smith, of Bristol, has extensively used various solutions. He first tried iodoform, and preferred it dissolved in absolute ether, in which it is soluble in the proportion of 1 in 8. This had "only the disadvantage that, by causing temporary giddiness and head disturbance, the patient becomes timid of the injection and unwilling to have it repeated." All other solutions of iodoform or iodol he found acted as local irritants, and could not be "safely or harmlessly" used. The amount of iodoform used in each injection was about one grain. Camphor carbolate was next tried. This is the clear fluid obtained by dissolving three times its weight of camphor in a 95 per cent solution of carbolic acid. This solution was giving excellent results in injections of 30 to 60 minims, when on the sixth administration to a case of advanced phthisis, the fluid entered a cavity and thence flowed into a bronchus, producing acute suppurative bronchitis with death in forty hours, shewing that though innocuous to connective tissues, its action on mucous membranes was far otherwise.

Biniodide of mercury was then resorted to, the following solution being employed:—Hydrargyri biniodidi gr. j., potassii iodidi gr. j., sodæ phosphatis gr. ij., aq. distillatam ♏ 50, as much as two-fifths of a grain of the mercury salt being injected at once. This gave some very encouraging results, and no ill effects occurred. This drug, indeed, seemed to Dr. Smith the most suitable of all; though Villemin states that its antiseptic properties as regards the bacillus of tubercle are very feeble indeed.

During a considerable experience of intrapulmonic injection with various drugs Dr. Smith encountered the following mishaps:—

1. The acute suppurative bronchitis above referred to.
2. Acute pleuritis: two cases with speedy recovery.
3. Pneumo-thorax, temporary and harmless.
4. Intense pleuritic pain, lasting hours, and requiring full doses of morphia.
5. Violent fits of coughing.

With the exception of the first, none of these are of sufficient moment to offer a bar to the practice of this treatment, and I believe it has a considerable future before it. The different action of a drug upon the lung parenchyma and the mucous membrane of the bronchus is certainly of great importance, and before using indiscriminately any special solution, the nature of this double action should be carefully investigated by experiments on animals, in the first instance, and afterwards at the bedside.

6. *Incision.*—In the single cavity, acute or chronic, incision seems to be just as much a necessity as in acute empyema; even in pyæmic cases I think this would be the correct treatment. Localisation is the great difficulty to be faced. This is no doubt often impossible; but much can be done by the way of circumstantial evidence in making a very shrewd guess as to the position. No straw of evidence should be neglected: the key is often found rather in a wise estimation of the symptoms than in a minute physical examination. Naturally exploring with a needle which will easily carry pus should be first undertaken, and the exploration should be thorough. Griffith in his excellent article on empyema (*Medical Chronicle*, March, 1889) has some cogent remarks on the necessity of thoroughness—if, he says, in a case of empyema "when from the symptoms we have a reasonable suspicion that pus exists, we should *go on till we find it*, anæsthetising the patient if necessary, and proceeding systematically. In one case it was not until nine punctures had been made that pus was found, and why we did not get it before I do not know; and in another case a double empyema was discovered after repeated exploration."

With these remarks I thoroughly agree; indeed I believe that in this as in many other instances in medicine much is often lost from mere lack of energic perseverance on our part. We lack a sufficiency of Dr. Moxon's "initial" energy, so that the biassed and unwise resistance of the patient baffles our weak determination. The exploring syringe should be capable of holding not less than a drachm, and the hollow needle should at any rate be not less than four inches long. If after several punctures no pus be found this needle should be replaced by a six-inch one. Whenever blood appears in the syringe this should always be slowly and carefully filled; by this means the lung may be artificially leeched to the extent of an ounce or more. To those who have often gazed on the tensely-gorged tissue around a lung abscess, or have seen the still deeplier filled lung in which exudation has gone too far for resolution and which would have become an abscess had death allowed it, the great advantage gained by this procedure will not be underestimated, especially if they have examined the dilated capillaries and the microscopic alveolar and interstitial hæmorrhages. In fact I feel sure that if we could always reckon on withdrawing blood by the exploring syringe "exploration" would be a desirable method of treatment for its own sake quite apart from its diagnostic value. Unfortunately, as a rule, this does not take place. The withdrawal should be made gradually so as merely to relieve the local tension and not attract blood thither from other regions. By acting thus any tendency the puncture may have given to cause hæmorrhage will be obviated.

The surgeon's great bugbear in this matter of incising lung appears to be the fear lest opening the pleural cavity may cause collapse of the healthy portion of the lung, with its consequent danger of fatal fainting. Another great objection is the fear that a suppurative and general pleurisy should be set up. By many it seems to me that both these objections are made far too much of, for these reasons:—1. The first is equally present in opening any acute empyema; yet we do not hesitate to do this, and any serious mischief resulting from this cause is of extreme rarity. 2. If any portion of a lung be so diseased as to form an abscess cavity, there is pretty certain to be at least one-half of the whole lung *hors de combat* and incapable of collapse or being of much present value to the patient. 3. Dr. Samuel West has shewn (*Lancet*, vol. ii., 1887, p. 353) that the force of cohesion of two smooth membranes, such as the pleura, is almost double that of the elasticity of the lung (12·5 mm. Hg. as opposed to 7). It is evident, therefore, that if air be admitted into a portion of the pleura, there is no reason why it should separate the pleuræ through the whole of their extent, provided they be healthy. This is doubtless the explanation of those small local cases of pneumothorax which occur in apparently healthy people, or after pulmonary injection.

The incision once made and the cavity emptied, the question arises of its further treatment. The course usually adopted is to use a single, large-sized drainage tube. The cavity is then either washed out once a day with some antiseptic solution, or left alone so long as free drainage appears to exist. But of late some have preferred to treat empyemas by perflation.* And I see no reason why the same method should not be advantageously applied to lung cavities. Less force, however, would have to be used, for the lining of a pulmonary abscess is usually friable and easily broken down. A strong blast would thus penetrate into the lung parenchyma, and might cause serious and destructive emphysema. If the track of the incision be a dependent one, in the usual position of the patient the simple, unaided drainage tube is probably quite sufficient.

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* Perflation—" through blast " (Wm. Ewart, *Lancet* ii., p, 226).—In empyema it has the following objects :—1. Avoidance of all fluid injections and their irritation. 2. *Complete* evacuation of pleura (this seldom done by fluid injections).

Apparatus.—Bottle 8 inches high with 1¼ ins. sol. carbolic ac , 1 in 10. Cork with two tubes, one dipping into sol., one just piercing cork. Richardson's bellows and india-rubber tubing. Tube may be inserted several inches and one hole is enough.

Advantages.—1. Air diffuses into every nook and cranny. 2. Hence influences every corner—fluid stream only spirts on one or two points. 3. Water merely dilutes fluids and suspends light solids, but either of these sinks in air ; hence if aperture be at *lowest point* all these will be driven there.

7. *Resection.*—But, unfortunately for our patients, the most trying cases of lung cavities, and those where interference seems most to be desired, are those in which the cavities are not single but multiple, for the most part small and sinuous and imperfectly separated from each other, the whole forming a tortuous labyrinth whose communications are diseased bronchi. The walls of this labyrinth are composed of very vascular and unyielding fibrous trabeculæ, which persist in keeping the cavities open and forbid any attempt at their collapse. Hence, the expiratory efforts of the patient for the most part vainly endeavour to squeeze out the secretion contained in them. The labyrinth is a pus-logged one, and withal exposed to the decomposing effects of ordinary air. The pent up pus naturally becomes thin, serous, and extremely fœtid, and is liable to set up a form of chronic septicæmia. We have, then, two attempts to make—to establish free drainage, and to induce the trabecular walls to take on a healthy, granulating action. No doubt this latter would follow if free drainage could be established; but this, I am afraid, is an impossibility. The cavities are not counted by ones, but by tens. And I think the most ardent surgeon would hesitate before he stuck the base of a chest with drainage tubes till it resembled the fretful porcupine. This is what a well-known London physician seriously told me he would have done to himself did he possess such a lung. Theoretically such free drainage is no doubt the correct treatment; let us hope that soon it will also be that which is found to act best in daily practice.

But we must not forget that, as Dr. Percy Kidd has pointed out, it is the trabeculæ which cause all the difficulty. Simple drainage would hardly be sufficient; the lung would then resemble a dropping stalactite cavern. It is these stalactites, this trabecular scaffolding, which it is so essential to clear away. They are too resistant to fall together and cohere, even after the freest resection of ribs. If coherence partially took place, their structure is so depraved that no reliance could be placed upon its permanency. Sooner or later disintegration would certainly occur. It is for such cases as these that resection of lung seems the only treatment. These fibrous trabeculæ are intensely vascular, and its veins are almost as dangerous as its arteries. Hence the knife can be but little used, and the écraseur is to be preferred. Such an operation in a debilitated subject is not one, I need hardly say, to be lightly undertaken. On the other hand, the condition of the patient is sometimes sufficiently painful, both to himself and his friends, to justify its performance, especially when we remember that the outlook otherwise is hopeless.

A NOTE ON THE USE OF THE OPHTHALMOSCOPE IN CLINICAL MEDICINE.

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To those acquainted with the use of the ophthalmoscope it will appear superfluous for me to insist on the great importance of this instrument in clinical medicine and on its routine employment in practice. My excuse in writing this paper is that the ophthalmoscope is very little used by general practitioners, and that I experience the greatest difficulty in persuading medical students to obtain an instrument and daily practise its use. A three months' daily course at the Eye Department of the Queen's Hospital or at the Eye Hospital will enable anyone to master the instrument sufficiently to be able to recognise all that is required in clinical medicine. I always advise my students to use the direct method and to practise with a naked candle. It is always possible to obtain a candle, and with a little practice it is quite sufficient. The conditions which a practitioner should be able to recognise are optic neuritis, optic atrophy, albuminuric retinitis, hæmorrhages in the retina, embolism of the central artery of the retina, choroiditis disseminata, and errors of the refraction. He should be able to tell whether the patient is myopic or hypermetropic to enable him to see the disc. The estimation of errors of refraction should be left to experts. To illustrate the absolute necessity of the use of the ophthalmoscope I will relate a few cases.

A practitioner at Handsworth recently asked me to see a case with him to decide whether the hemiplegia complained of was hysterical or otherwise. The patient was a young girl about eighteen. She had been suddenly taken ill after a dance. I found marked hemiplegia on the right side, the face and tongue being affected. The implication of the face and tongue suggested that the case was due to organic disease, but it was not absolute proof of this. There was no heart disease and no albuminuria. I examined the right eye, and found no change in the disc. I then examined the left, and found intense neuritis. This at once settled the diagnosis; the hemiplegia was due to tumour of the brain; and it turned out to be so, for the girl, after becoming paralysed on both sides, died in a few weeks. Of course it must be remembered that optic neuritis may be caused by anæmia and chlorosis, apart from any serious brain disease; and these causes must be borne in mind in estimating the significance of optic neuritis in young girls. A lesson taught in this case also is that both eyes must be examined, for the neuritis may be confined to one disc. I certainly should have missed the diagnosis had I not examined both eyes. · Dr. Hughlings Jackson thinks that in cases of this kind the disc on the opposite side to the brain lesion is more frequently affected than that on the same side. My case did not support his opinion.

A young lady was brought to me complaining of slight weakness of one leg and of peculiar numbness of the arms and legs. There was nothing to be seen, and I was inclined to regard the case as one of a functional nature. On examining the fundus oculi however I found marked pallor of both discs, and therefore gave a guarded prognosis, fearing some chronic degenerative disease. In two years time there were well-marked symptoms of multiple sclerosis. Optic atrophy may be the first symptom of locomotor ataxia, multiple sclerosis, or of general paralysis.

I was called a few weeks ago to see a woman supposed to have cancer. I found the patient very anæmic, the anæmia having come on after severe trouble and worry. I found no tumour anywhere, though the vomiting in a woman of 50 years of age suggested malignant disease. On examining the fundus oculi I found copious retinal hæmorrhages. These hæmorrhages enabled me to diagnose pernicious anæmia, and on enquiry I found there had been repeated epistaxis. The diagnosis proved to be correct.

In all the cases of pernicious anæmia I have met with there have been retinal hæmorrhages. Last year I had under my care six cases, all of which proved fatal, and in all of which there were copious retinal hæmorrhages. Retinal hæmorrhage only denotes severity of the anæmia—it occurs when the red corpuscles are reduced to 50 p. c. and under.

Every ophthalmic surgeon can tell of cases of Bright's disease first recognised by him when examining the fundus oculi. It is a well-known fact that albumen may be absent at times in cases of chronic Bright's disease. A year or so ago a man applied to me for relief for headache which was frontal and severe. He had no cardiac hypertrophy, no high pulse tension, and there were no retinal changes. I could only obtain a small quantity of urine to examine. The sp. gr. was 1016, and there were no casts and no albumen. I suspected Bright's disease from the man's anæmia, but I could not tell for certain. Later on his doctor wrote me that he had a large quantity of albumen in the urine. I felt rather small on hearing this, thinking that I might have made some mistake when examining the urine. Later on I heard from a gentleman who had acted as *locum tenens* for the doctor, that he was deceived also, for he could not find albumen at first though he did later on. The man died from uræmic eclampsia.

A young lady recently came under my care suffering from severe hemiplegia with rigidity. The hemiplegia came on suddenly without coma. There was no albumen and no heart disease. I of course suspected syphilis to be at the bottom of the mischief, but there had been no headache and no miscarriages. On examining the fundus oculi I found well-marked choroiditis disseminata, and on interviewing the husband, found that he had had syphilis. In children choroiditis may be the only indication of hereditary syphilis.

A man in the workhouse, who was able-bodied and at work, complained of sudden loss of sight in the right eye after having a warm bath. I found the characteristic appearances of retinal embolism, and on examining the heart, found a well-marked pre-systolic bruit.

I have a patient in the Queen's Hospital at the present time who is suffering from alcoholic paralysis. On examining the fundus oculi I found optic neuritis I published a similar case last year, in which there was ophthalmoplegia externa with optic neuritis due to alcoholism. I believe there are only three or four cases on record where optic neuritis has been produced by alcoholism; but there is no doubt of the fact, and it must be borne in mind, or a wrong diagnosis might be made. I was recently asked to see a gentleman suffering from severe pain in the head. From his answers I concluded that the pain was migrainous, for he had suffered from migraine for many years. However, on examination with the ophthalmoscope, I found severe optic neuritis. I have never heard of or seen optic neuritis due simply to migraine. I therefore gave a guarded prognosis, and considered that there was probably a cerebral tumour.

The ophthalmoscope is not only invaluable in diagnosis and prognosis, but also in treatment. I have occasionally found signs of commencing neuritis seen especially where the vessels leave the disc ; there being a little effusion and increased tortuosity of the vessels at these points, but the outline of the discs being otherwise well defined. These cases have frequently yielded to mercury and iodide, and the signs of neuritis have disappeared. I have seen optic neuritis in typhoid fever, secondary syphilis, very frequently in lead poisoning (here again care must be taken not to mistake the case for one of cerebral tumour) tuberculosis, and in apoplexy a few days after the hæmorrhage.

Scurvy is very commonly met with at the Workhouse Infirmary. Tramps frequently live on bread and bacon, and often have no vegetables for months. In these cases I frequently find retinal hæmorrhage. In a case where I diagnosed tuberculosis, the discovery of optic neuritis enabled me to foretell the early approach of tubercular meningitis.

A young man was recently admitted into the Queen's Hospital presenting symptoms of melancholia. Optic neuritis was found to be present, and this at once distinguished the case from one of insanity.

I could multiply the illustrations I have already given, but perhaps I have related enough to prove the great value of the ophthalmoscope to medical practitioners. I look back upon the three months I attended the out-patient department of the Eye Hospital with much pleasure, for I regard it as the most valuable instruction I received as a student. I recommend all my readers, who have not hitherto done so, to read Gowers' "Medical Ophthalmoscopy."

HISTOLOGICAL NOTE.

BY T. LAW WEBB, M.R.C.S. ENG.

To those who do much section-cutting by freezing the tissue in gum and sugar it may be useful to learn that a mucilage of dextrine is equally efficient. I find that by taking an aqueous solution of carbolic acid (about one in forty) and dissolving therein sufficient dextrine to make a thick syrup, a medium is obtained which is superior to the time-honoured gum and sugar in three ways.

It freezes so as to give a firm support without being too hard.

It keeps better than gum, in which several kinds of fungi are apt to grow.

It is *much cheaper*, costing only fourpence a pound, whilst powdered gum acacia costs five shillings.

Dextrine dissolves but slowly in cold water, so that a gentle heat is advisable when making the mucilage.

REPORTS OF CASES.

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CASE OF INTERMITTENT HYDRONEPHROSIS.

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Jane —, aged 47, was admitted July 21st, 1888, complaining of a tumour in the right side of the abdomen, which she had noticed for two years.

Family History.—Father died of bronchitis, aged 66. Mother died aged 70, cause not known. Two brothers alive and healthy, none dead. Patient was married, seven children alive, four dead, one from typhoid fever, the others at about three months old from "consumption." No history of any tumours in the family.

Previous History.—Had small-pox when 30 years of age; no other history of illness. Eleven years ago, about a week after a confinement, patient noticed a small tumour about the size of a hen's egg just under the right costal arch. This lasted for about a day and nothing was felt of it for about three months; this happened about four times within the year. It was a little painful, but patient said it was not tender. Two years ago patient noticed a small tumour in the right iliac region; this was painful and tender. This swelling increased in size for about a fortnight, and then gradually disappeared, taking about a week to do so. Patient said it shifted its position, rising higher up in the abdomen. Patient was not menstruating at the time, but had been poorly about a week before. She had seen a doctor at the time who told her the swelling was caused by inflammation of the right ovary. She was "pulled down" in health after the swelling had disappeared.

The second time patient noticed the swelling was about six weeks after, and it lasted about a week, and after about a similar interval the tumour again reappeared. The recurrence took place after this every three, four, or five weeks and lasted for about a week each time, until last October. For the next six months patient was only troubled three times. Since April patient had felt the tumour every two or three weeks. Eighteen months ago patient was in the Infirmary for seven months and she was then told the swelling was a "phantom tumour."

Patient had not noticed any connection between the appearance of the tumour and menstruation. She said the urine had been high coloured after the swelling had disappeared, and she thought she passed a small quantity of urine whilst the tumour was present. Did not remember having passed any blood in the urine.

Present Condition.—Patient was a healthy-looking, stout woman, who had not recently lost flesh, complaining of the above-mentioned tumour. The abdominal wall was lax, and on the right side a tumour was felt in the lumbar region. This was somewhat oval in shape and smooth, and reached forward to the middle line at the umbilicus. There was no notch to be felt; the tumour felt solid. The tumour was painful, but the pain did not radiate in any direction. It was tender on palpation; it did not move on respiration.

Alimentary System.—Tongue slightly furred, teeth fairly healthy; there was a bluish line at the edge of the gums. Appetite fair; no pain after food. Bowels regular. Liver dulness in the nipple line commenced at sixth rib.

Circulatory System.—Apex beat not marked; area of cardiac dulness not to be percussed out; sounds normal. Pulse regular; fair tension.

Respiratory System.—Sounds normal; no cough.

Urinary System.—Urine, 1010 acid; no blood. The test for albumen gave an opalescence. There was a slight flocculent deposit containing squamous epithelial cells and leucocytes.

July 22nd. This morning the tumour had shifted its position. From the front of abdomen the swelling was not so easily felt, but on bimanual examination was easily palpated as a smooth, rounded swelling, somewhat painful and tender. Patient only passed 2½ oz. of urine after admission, 4-30 p.m.

23rd. The tumour could not be palpated this morning at all. Patient passed 52 oz. of urine yesterday; this contained no blood.

23rd, later. It certainly seemed much smaller, and had sunk down into the lumbar fossa, but it was still easily felt on bimanual palpation, and appeared larger than the closed fist.

24th Seemed still smaller this morning, and was in no way tender.

July 29th. Seen by Mr. Barling. Patient was then getting up.

Aug. 4th. Double the size this morning; not so hard as it was originally.

5th. The tumour was about the same size; patient had been passing less urine for the last three days.

7th. The swelling was less in size to-day.

Aug. 10th. I could feel no tumour at all, while the abdominal walls were so relaxed that it was very easy to feel all that could be felt in the abdomen.—R. S.

16th. Kept quite free from pain; no tumour.

Sept. 29th. Was re-admitted to-day. She went out on the 10th of August, and since then had been fairly well; twice she had felt a lump in the abdomen, but it had disappeared again on the next day. She had not at this time noticed an increase in the quantity of urine.

On the 27th she again felt the lump in the front of the abdomen.

On the 28th had a great deal of pain, and vomited frequently; the pain was constantly present, but was worse at times, and then she vomited. To-day the pain was less, and she came up to the hospital. On examination, there was a large, rounded swelling in the right side of the front of abdomen; this was moveable in the abdomen, and about the size of three fists. When patient was put under chloroform, with free relaxation of the muscles the tumour still remained, and the muscular wall of abdomen could be felt and pinched up in front of the tumour; the swelling was very moveable, and slipped underneath the costal arch. By palpation it was fixed in the right loin and an aspirating needle passed into it. About six ounces of blood-stained fluid was drawn off; this was bright red in colour. The fluid from the tumour gave the tests for urea with sod. hypobromite; after boiling there was ·7 per cent. of urea. There was also a precipitate with mucin nitrate after phosphates had been precipitated by burin Crystals of urea were also seen under the microscope after treating with strong nitric acid.

In coming round from the influence of the anæsthetic patient looked very bad, the face was very pale and pulse weak. In two or three hours she improved very much.

Sep. 30. She looked very well this morning, but did not sleep in the night, did not complain of any pain. Had passed ℥ 27 of urine since admission; this was deeply coloured with blood.

Oct. 1st. There was no tumour to-day, and nothing in site of kidney varying much in size from the normal organ. Urine was still blood-stained, *i.e.* smoky.

Oct. 2. Had had a good night; no pain now and no tumour to be felt. The urine, however, contained a good deal of brown deposit (blood-stained.)

Oct. 3. Urine still contained blood, but less each day. No pain.

Oct. 4. Urine of to-day contained no blood.

Oct. 5. No tumour to be felt; the urine contained no blood.

On her discharge the nature of the tumour was explained to her, and she was told to rest in the recumbent posture should it come back.

She went on very well, on the whole during the winter, and after some little delay, a well-fitting belt was made for her which she wears with a pad in the hypochondrium.

When last seen (June 18th) she had had no return of the swelling since March.

Remarks.—This case is published because it illustrates a condition which is not at all as well known to practitioners as it should be, and which must prove very puzzling to anyone unaware of its occurrence.

Hydronephrosis is always the result of an incomplete obstruction to the ureter; and in this case it is probable that the obstruction took the form of a bend or twist caused by slight mobility of the kidney, so that it was able to turn upon its horizontal axis.

This obstruction would be increased by the pressure of the distended kidney, but on the recumbent position being maintained the organ would gradually empty itself and return to its normal position.

The following is Mr. Thorneywork's description of the belt he has made:—"The Belt is made (as regards front and back parts) of material called lastin, such as used in the making of stays, the front to be so shaped to fit the figure with elastic webbing sides and to be laced down the back, a pad with good firm foundation of some pliable metal (say tin) well padded to press on the hypogastrium, fixed in the belt. Perinæum bands to be attached when required to keep belt from riding up."

1. CEREBRAL TUMOUR. 2. HEREDITARY CHOREA.

BY C. W. SUCKLING, M.D. LOND., M.R.C.P.
PHYSICIAN TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

Cerebral Tumour.

Cerebral Tumour—headache; hemiplegia; delirium; coma; double optic neuritis—recovery.

A man aged 36, a gun engraver, was admitted into the Queen's Hospital under my care on June 26th this year. He complained of severe and persistent frontal headache, weakness of the right side, and of failing memory. He had been ill for two months before admission, his illness commencing with headache, and following this hemiplegia gradually supervened. There was no family history of disease, and no history of syphilis could be obtained from the patient. He had been a steady hard-working man, not addicted to drink. He had not received any injury to his head. On admission it was found that his memory was very defective, and he soon became delirious and maniacal, and finally almost comatose. There was paresis of the right hand and foot and of the right side of the face, with ankle clonus on the right side. There was also well-marked double optic neuritis. The neuritis was most intense on the left side (on the opposite side to the hemiplegia). The movements of the right side were accompanied by well-marked tremor, indicating pressure on the motor tract. The patient remained in a very dull and stupid condition for some time. He could not recognise his friends and did not know where he was. He could not feed himself. He was quite unable to stand. The knee jerk was present on both sides but exaggerated on the right side, on which side there was ankle clonus The temperature was normal and the urine healthy

The patient was given iodide of potassium with half-drachm doses of the liq. hydrarg. perch. (B.P.). In all cases of optic neuritis these drugs should be freely given, for they certainly modify the intensity of the neuritis and tend to prevent blindness, even though the case may not be syphilitic. The iodide of potassium was increased till he took twenty grains three times a day. Under this treatment he gradually improved, the ankle clonus and hemiplegia disappeared, and the patient became brighter, his delusions and loss of memory gradually disappearing. At the present time (Aug. 19th) the patient is practically well; he can walk perfectly well, and is cheerful and intelligent; he does not complain of his head, and the optic neuritis has almost disappeared. The exact nature of this case is doubtful. The recovery under the influence of iodide of potassium and mercury points to syphilis, but there was no history of contraction of the disease, and no scar on the penis or elsewhere The headache, moreover, was not nocturnal, though this is not essential. In a case I saw recently, a man, who ten years previously had contracted a chancre, was suffering from headache which was worse in the daytime, and was of a neuralgic character. I failed to relieve him with quinine and gelseminum, but at once cured him with iodide of potassium and mercury.

Hemiplegia in a man under fifty years of age, in the absence of heart disease and Bright's disease, is strongly suggestive of syphilis. In this case the gradual onset of the symptoms, the presence of tremor on movement of the paretic limbs, and the complete recovery, all point to pressure upon the motor tract, and not to syphilitic arteritis. There were no convulsions, so that the central convolutions were not directly affected. It is most probable, considering the severity of the mental symptoms, that the left frontal lobe was the seat of gummatous mischief; that the motor fibres from the left motor convolutions were pressed upon. In this case no tenderness of the skull was present. The condition of stupor met with in this case is common in cerebral tumours situated anywhere in the brain, and it is usually associated with increased intra-cranial pressure.

It is important to remember that syphilis may cause coma. When staying recently at a seaside resort I was called to see a visitor who had been suddenly taken ill. I found that he was absolutely comatose and had been so for twelve hours. I found that though married for some years his wife had had no children, and that he had a scar on his penis. I excluded Bright's disease, alcoholism, epilepsy, diabetes, embolism, opium and other poisons. I suggested that perchloride of mercury should be injected under the skin frequently (Burroughs and Wellcome's tablets were used) and iodide of potassium given per rectum. I quite expected that the man would die, but I found on my return the following week that he was quite conscious. The doctor in attendance told me that he remained unconscious for three days after I saw him, but that as soon as he became salivated he began to notice a light and soon recovered.

The man called on me last week and is perfectly well except for a little occipital headache. He denies syphilis, but of course it is well known that the primary and secondary stages may be so mild that they may pass unnoticed even by the patient himself. Anyway, the fact remains, that a man who was deeply comatose recovered under the free administration of mercury and iodide of potassium.

HEREDITARY CHOREA.—(Huntington's Chorea).

J. D., a man aged 39, a machinist, attended my out patient department at the Queen's Hospital suffering from irregular jerky movements of the arms and legs. He had been steady and hard working. He had suffered with jerky movements of the hands and feet for three or four years. He says he is always jerking and that he often stumbles. He is always "sniffing" from spasms of the diaphragm. The knee-jerk is normal, and there are no signs of disease beyond the movements. He has had rheumatism slightly in one shoulder, but the heart is unaffected. The shoulders are much affected, the tongue and face only slightly, and speech is not affected. He told me that the disease was in his family, and that his mother died aged 56 after suffering for sixteen years from the complaint. She became quite helpless and unable to feed herself some years before she died. He says that she died from bronchitis. He brought one of his sisters (aged 38) at my request. She had been affected for five years and cannot be trusted to wash dishes, etc., as she always drops them. He also brought his youngest daughter (about 12) who is also affected with the disease. Hereditary chorea was first described by Huntington of Long Island. It differs from ordinary chorea in that it is distinctly hereditary and not indirectly hereditary as is ordinary chorea. It affects adults chiefly, or it may come on in middle life. If a member of an affected family escapes, then the inheritance in his or her case ceases. It cannot skip a generation. At first the movements can be directed by the will, but the disease progresses and becomes quite involuntary until the patient is unable to walk, becomes bedridden and demented. Ordinary chorea gets well; hereditary chorea may remit or exacerbate, but never gets well.

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Lactose, or Milk Sugar, as a Diuretic.—Prof. Germain Sée (*Bull. de l'Acad. de Médecine*, June 11th, 1889) believes milk sugar is the best diuretic in cardiac dropsy, hence the value of the milk regimen in these cases. But the use of lactose is preferable to that of milk, as the dosage is more exact, and neither glycosuria nor azoturia result. The quantity used is fairly large—100 grammes (3⅓ oz.) of milk sugar daily, dissolved in two litres of water.

De la Lobéline dans la Thérapeutique de l'Asthme.—Dr. Silva Nunes.—The author of this pamphlet recommends lobéline in gradually increasing doses, from ½ grain to 3 grains in pill, every two hours for the treatment of spasmodic asthma.

The Treatment of Purpura Hæmorrhagica by Nitrate of Silver. Poulet (*Bull. Gén. de Thérap.*, May 30th, 1889).—The author relates two cases of purpura hæmorrhagica: the first, a boy aged 12, had petechial eruption and epistaxis not controlled by perchloride of iron, acid infusion of roses, plugging the nostrils, and subcutaneous injection of ergotin. Nitrate of silver, in one-fifth grain doses twice a day, cured him in three or four days. The second case was even more severe, as there was hæmorrhage from the nose, stomach, and bowels, with petechiæ, deafness, blindness, and albuminuria. The hæmorrhages ceased after the first day's use of the remedy, and twelve pills effected a cure.

Diet in Bright's Disease.—Schreiber (*Berliner Klin. Wochenschrift*, No. ~~23, 1889~~) has shewn that eggs do not cause an increase of albumen in Bright's disease, and in this he is supported by Leyden and Oertel. (The reporter agrees with this, and has permitted the use of eggs in his practice for several years).

Uterine Medicines.—Mr. Naunton W. Davies (*The Lancet*, June 8th, 1889) says it can safely be said that no medicines are so disappointing in their action as those which are supposed to act upon the uterus and its appendages, and influence the menstrual habit in women. These remedies, so formidable in number, look very imposing when the long list is scanned; but is there not something in the multitudinous array suggestive of conscious weakness—of individual feebleness hidden in a crowd? Let me instance the following:—Borax, cantharidis, ergot, aconite, pulsatilla, caulophyllin, permanganate of potash or soda, peroxide of manganese, santonin, rue, savin, cimcifuga rac., sanguinaria, megarthes, pot. iodi, apiol, iron, and the various cathartics. Now, of all these remedies, have any of them shewn a disposition to act consistently when given to different patients apparently suffering from identical troubles? It would be affectation to pretend that they have generally any such characteristic.

Of the long list of remedies noticed, there remain caulophyllin and pulsatilla, and of these much can be said of a favourable nature. Caulophyllin, the resinoid prepared from caulophyllum thalictoides, known in America under the various names of squaw root, pappoose root, and blue berry, has been recognised in that country as a valuable therapeutic agent from very early times. There seems to be a general agreement amongst those who have studied its action that its effect is chiefly felt by those motor nerves which are connected sympathetically with the menstrual organs, and that this action is of a sedative character, allaying that irritable condition of the generative system which so often lies at the root of functional irregularities. As a remedy in these derangements, in "irritable neurotics," especially when they are marked by disturbance in the sacral plexus, it has undoubtedly acquired a sounder reputation than most of its competitors, and deserves a permanent place in the select circle of approved remedies. But its action, although often favourable when administered alone, is much more reliable when given in combination with pulsatilla (anemone pulsatilla, pasque flower), which has long been known as a popular and effective remedy in uterine functional derangements. A few years ago it was well spoken of by Dr. Brunton and Dr. Gerard Smith as a sedative agent of much power in the treatment of inflammatory states of the testicle and spermatic cord, producing such rapid abatement of pain as to supersede even the necessity for morphine. As pulsatilla increases the beneficial action of caulophyllin, so the latter increases the action of the former, and it is therefore when they are both combined that we get the most perfect emmenagogue that our present state of knowledge has yet suggested.

My own experience in the use of liq. caulophyllin et pulsatilla is most encouraging; and, while I urge with much confidence its use by my *confrères*, I would, at the same time, beg them to make their experience known.

The preparation used by Mr. Naunton W. Davies was, we understand, that prepared by Oppenheimer Bros. and Co.

Counter-Irritation in Whooping Cough.—Inglott (*Brit. Med. Jour.*, 1889, i., 885) says that during the last year whooping-cough was very prevalent in Malta, and was very often of a severe type. He was called to treat a good many cases of the disease, and tried the administration of several medicines, as bromides of potash, valerian, assafœtida, morphine, belladonna, etc., and though he carefully watched their effects, he could not see that any of them proved of much use. He was then led to try the application of strong counter-irritation over the pneumogastric nerves, between the mastoid process and the angle of the lower jaw. The results were very satisfactory. In one case, which he relates as an example, a boy of twelve years suffered from such violent paroxysms that blood came from his eyes and mouth, and a fatal termination was feared. Various remedies, including morphine hypodermatically, had proved useless, but the application of counter-irritation on both sides of the neck acted like magic, as in from four to five days the patient recovered, and was able to go to school.

The Treatment of Tabes by Suspension. Bernhardt (*Deutsch. med. Wochenschr.*, 1889, No. 21) has, during the last quarter of a year, treated nineteen patients, with about 220 suspensions.

Most of these were tabetic patients, some of whom had received more than 20 suspensions, others between 15 and 20. By all, even the very ataxic, the treatment was well borne. Apart from the beneficial psychic effect on the patient of a new method of treatment, there was an indubitable improvement in nearly every case. Some, it is true, stated that they felt no better, but in the majority Bernhardt recorded amelioration of the lancinating pains, increased ability to walk, diminution of the ataxia, increased vesicle power, in some cases a decided influence on the lost sexual power, and in nearly all an improvement in the general condition. He warns, however, against viewing this plan of treatment as a panacea for such a chronic disease as tabes is, and says that it has not yet been used long enough to permit of a final judgment on its value. It is certain, however, that it is a valuable means, though not for the healing of tabes, yet for the amelioration of many of the most distressing symptoms of the disease.

The Treatment of Empyema by a Valvular Rubber Tube Hermetically Sealed to the Chest.—W. Williams (*Brit. Med. Jour.*, May 18th, 1889) speaks of the difficulty usually encountered in treating empyema, this consisting in the fact that the cure is left almost entirely to the retraction of the chest wall. It is only after the external wound closes and the atmospheric pressure is excluded that there can be any re-expansion of the side of the chest, carrying the lung outward again; if, after this length of time, it is still able to expand at all. Children recover so much more readily because the chest wall rapidly falls in, the opening closes, and the chest then again expands and attains its normal condition before the lung has had time to form firm adhesions.

To aid in the recovery from the disease in adults, the author has devised a valvular tube, by which the atmospheric pressure from the external surface of the lung is removed, while the external opening still remains. The method consists simply in passing a rubber tube into the chest through a plate which it fits air-tight, the plate itself being hermetically sealed to the chest wall. To the free end of the drainage tube is affixed a valve which opens outward. As the valve acts best in a liquid, this end of the tube is placed, when in use, in a bottle containing some antiseptic solution. Once or twice each day the valve is removed and the chest washed in order to thin the pus.

By means of this mechanism the side of a chest is converted into the cylinder of a pump, of which the diaphragm is the piston. There are two exit openings, the trachea and the rubber tube, but only one entrance opening, the trachea. Each time that the diaphragm ascends, the air of the lung and the pus of the pleural cavity are expelled; but each time it descends, air can enter the lung only. The lung must therefore necessarily be expanded in order that its tissue may take the place of the pus which has been expelled. During the washings out of the chest, the lung of course collapses temporarily somewhat, but expands at once on re-adjusting the valve.

The author reports three cases illustrating the success of this method. In the first case there was found considerable difficulty in finally withdrawing the tube, since, when taken out, the lung at once collapsed and pus began again to be discharged. It was then found that by very gradually shortening the portion projecting into the chest, the opening healed from the inside after it. The other two cases were consequently treated in the same way, and without difficulty arising.

DISEASES OF THE SKIN.

BY R. M. SIMON, B.A., M.D. CANTAB., M.R.C.P. LOND.

A Clinical Study of Alopecia Areata and its Treatment.—L. Duncan Bulkley, M.D. (*The Medical Record*, March 2nd, 1889).—The author found in 12,725 cases of skin disease, 119 of alopecia areata, a percentage of 0·94, and of these only 32 occurred in public practice, or a percentage of 0·45; whereas in the higher grades of society, among which his private practice lay, he found a percentage of 1·54. He strongly favours the nervous origin of the disease as opposed to the parasitic, and argues its relatively more frequent occurrence among the well-to-do as a strong point in favour of this view. In support of his opinion he shews that the disease occurs nearly twice as often in males as in females, and most frequently between the ages of 20 and 30; whereas in females it occurs with relatively greatest frequency in the first decade; and this he attributes to the greater delicacy of the female nervous organism at this period of life. As a negative argument in favour of his view, he cites the fact that he never has succeeded in finding any parasite, nor any evidence of the occurrence of the disease in two members of the same family.

He recommends veratria in an ointment (5 to 10 gr. to the ounce) to be applied locally, and says croton oil, strong carbolic acid, acetum cantharidis, capsicum, and other stimulating applications may be used with advantage. He relies mainly, however, in pursuance of his theory as to etiology, on hygienic treatment. Most patients, he says, shew some deviation from a normal standard of health. He recommends fats and phosphates in the dietary, especially milk, cream, and whole-meal bread; while as medicines he uses strychnia, phosphoric acid, and cod-liver oil.

The Relations of the Seborrhœic Processes to some other Affections of the Skin.—H. G. Brooke, M.B. (*British Journal of Dermatology*, June, 1889).—Under the influence of Dr. Unna's articles on eczema seborrhœicum, Dr. Brooke has made and recorded observations on the coincidence of seborrhœa with other diseases of the skin. He agrees with Unna in thinking that typical eczema frequently coincides with seborrhœa, but objects to Unna's name of "eczema seborrhœicum" as being properly inclusive of nearly all the cases of seborrhœa. His argument that the long duration of these cases if due to eczema ought to be evidenced by thickening of the cutis seems to be cogent, and he cites cases in which the disproportion between the eczematous and seborrhœic manifestations plainly point to a double rather than a single origin. He suggests that many so-called cases of psoriasis are really seborrhœa, and points out similarities as regards their situation and course. In rosacea, especially, he believes the influence of seborrhœa to be most marked, and has found seborrhœa of the scalp and face shew its existence markedly in most cases of the disease. Whenever seborrhœa exists anywhere on the body, the scalp is almost always affected, and shows the disease in a greasy scurfiness. This may vary in extent from "dandruff" to the formation of a thick mass which looks as if formed of small blocks of half-dried cheese. It occurs commonly also on the eyebrows and the middle portion of the face, about the angles of the mouth, and in the whiskers. The condition described by American authors as seborrhœa corporis—which is met with most commonly over the sternum and between the shoulders, and consists in an outbreak of papular, nummular, or circinate patches, or gyrate lines made up of a connected series of fragments of circles more or less covered with dull-coloured greasy scales—he regards as a very different affection. He considers the seborrhœa to be due to a dermatitis caused by the presence of one or possibly several micro-organisms, leading to a specific irritation of the fat-forming functions of the skin.

Trichomycosis Nodosa.—Dr. Patterson (*Dublin Journal of Medical Science*, May, 1888) has found short rods in the hard nodes attached to the affected hairs. The bacilli were about one quarter the diameter of a red blood corpuscle in length, and their breadth was about half or one-third of their length. They were non-mobile, and were sometimes joined into twos or threes, but rarely formed longer filaments. They stained well with aniline dyes, and were not found in the skin or hair follicles. Dr. Walter Smith shewed hairs from a similar case, also proving the presence of bacilli.

Further Researches on the Treatment of Tinea Tonsurans.—A. J. Harrison, M.B. Lond.—This is a paper read before the British Medical Association at Glasgow last year, and indicates a method which Dr. Harrison believes to be simpler and more efficacious than the use of a caustic alkali in solution, followed by the application of a parasiticide. He makes the following ointment:—℞. Potassæ fusæ gr. ix., acid carbolici gr. xxiv., lanolin, oil of cocoa nut āā ℥ ss. M. ft. unguentum. A small portion of the ointment is to be rubbed on the affected parts night and morning. [Numerous cases treated by this method have not, unfortunately, proved very successful.—R. M. S.]

Lupus Vulgaris and its Relation to Tuberculosis.—H. G. Barling, F.R.C.S.—Mr. Barling records the results of the examination of lupus tissue removed by excision from eight cases of the disease. He made a careful examination of about twenty sections in each case, and in each instance found well-marked tubercle structure. In three cases he found bacilli, and attributes his failure to do so in the rest to insufficient examination. He regards the disease as tubercle of the skin, and suggests as a reason for its slower course as compared with other tubercular affections, the probability that the skin is inoculated directly with bacilli, and not through the circulation. If this reason be accepted he argues further that the low temperature of the skin is a further cause of the chronicity of lupus, as the tubercle-bacillus needs for luxuriant growth a temperature of about 90° F. In support of his contention he draws attention to the experiments of Eve, who was able to induce with the same lupus tissue genuine lupus in rabbits and tuberculosis in guinea pigs. The relationship of tuberculosis and lupus was discussed by the American Dermatological Association in 1888, and the consensus of opinion was greatly in favour of their close connexion.

Heitzmann on the Value of Salicylic Acid in the Treatment of Diseases of the Skin (Transactions of the American Dermatological Association, 1888).—The discussion which followed the paper supported its main contention, namely, that salicylic acid was especially useful as a keratolytic agent and as an antiseptic. Cases of hyperidrosis, whether of the feet or axillæ, are especially benefited by its use. A one per cent. mixture in tallow is the regulation application for the soldiers' feet in the German army, and a six per cent. powder of the acid can be used with advantage for the axillæ. Other brilliant examples of its value are exhibited by its influence on callosities, for which the pure drug may be used, and on boils, for which Heitzmann used a six per cent. paste. He uses it in four ways :—1. As a powder, either pure or mixed with oxide of zinc and starch. 2. As a plaster or mull, the vehicle being diachylon and soap plaster. 3. As a paste, prepared with cold-cream and additional starch and oxide of zinc. 4. As a solution made in alcohol of three per cent. strength and diluted with water.

SURGERY.

BY GILBERT BARLING, B.S., F.R.C.S.

Simultaneous Ligature of the Common Carotid and Subclavian for Aneurism of the Ascending Aorta.—Meriwether (*Annals of Surgery*, May, 1889).—The patient, a woman aged 35, had suffered from pain in the upper left thorax for two or three years, and when walking up a hill was seized with short, sharp, sudden pain in the entire upper thorax, with faintness and palpitation. Examination revealed pulsation at the root of the neck only on lying down, and in the second right intercostal space on sitting up ; a thrill was felt which was most distinct over a space three inches in diameter, and extending upwards from the second right interspace. A well-marked aneurismal bruit was heard with the greatest distinctness in the second right interspace close to the sternum, and there was tenderness and dullness about the sternum and to its right side. The pupil of the right eye was contracted, and there was buzzing in the right ear. Later on, a mitral regurgitant and an aortic stenotic murmur were heard. As the aneurism was evidently extending, the right carotid and subclavian arteries were ligatured in the usual situations with catgut. The operations were carried out without difficulty, the time occupied being an hour and a half, and the wounds healed well. The patient was allowed up on the twelfth day, leaving the hospital on the seventeenth, and on the twenty-seventh day no pulsation could be felt, but a slight systolic bruit could still be heard over the ascending aorta, being lost in the aortic stenotic murmur.

Aneurism of the External Iliac Cured by Digital and Instrumental Compression.—Barker (*Brit. Med. Jour.*, Dec. 22nd, 1888).—The patient, a male aged 48, suffered from an aneurism about five inches in its vertical diameter. Pulsation could be stopped by the point of the finger pressing over the line of the external iliac artery, but "below" the upper border of the aneurism, suggesting that the latter was sacculated; there was some œdema of the limb. Digital compression between the bifurcation of the aorta and the spot above referred to was tried for ten hours on April 13th, for five and a half hours on the 15th, for six hours on the 18th, each time with slight improvement. On the 19th Carte's tourniquet was used for three hours, and on the following day preparations were made for ligaturing. After the skin incision was made, the patient gave a brisk movement with his leg, and immediately afterwards all pulsation had disappeared from the tumour, which henceforth became steadily consolidated. Mr. Barker believes that during the treatment by compression some clot was formed, and that the struggling whilst the anæsthetic was being administered detached some of this clot and plugged the lower orifice of the aneurism.

Pyæmic Pericarditis successfully treated by aspiration and drainage.—Dickinson (*Clin. Soc.*, Nov. 23, 1888).—The patient, a boy aged 10, was admitted with evidence of effusion into the left pleura and the pericardium, with dyspnœa, blueness and irregularity of pulse; all these had followed a large gluteal abscess. On June 18th and 23rd over thirty ounces of serum were removed from the pleura by aspiration; on the 25th and 28th this was repeated but with little relief to the symptoms; so on the 30th the pericardium was aspirated, an ounce only of pus being drawn off; and on July 8th and 15th respectively twelve and nineteen ounces of pus were drawn off. On July 22nd, the distressing symptoms having returned, an incision was made into the pericardium and a drainage tube inserted and retained until the cavity had filled up. Six weeks later only a small cicatrix, moving with each beat of the heart, showed where the incision was made. The point selected for the aspiration and incision of the pericardium was the fifth right interspace close to the sternum.

Mr. Parker related at the same meeting a case of Pyo-pericarditis with Osteo-myelitis for which drainage was resorted to. The patient, a girl aged 9, was in the fifth week of her bone trouble, when extensive pericarditis supervened. This was first relieved by tapping but it was subsequently found necessary to incise and drain the pericardium. Very thick pus being found it was thought advisable to remove it by irrigation, and whilst this was being carried out the child died. Mr. Parker suggested that the opening in these cases should be made in the fourth left interspace close to the sternum.

Two Cases of Gangrene of the Lung; Operation and Cure.—Shewen and Hawkins (*Australasian Med. Gaz.*, April, 1889).—

Case 1.—Male, aged 28, was seized six months before admission with vomiting and diarrhœa, and a cough with expectoration of blood and matter. When admitted, he was very feeble and anæmic, much troubled with cough, which brought up blood and pus, and there was great dyspnœa; the pulse was quick, temperature 101·5, respiration 42; the right chest posteriorly quite dull in lower half, with absence of breath-sounds and vocal fremitus. Pus being found with an exploratory syringe, the chest was opened by the removal of two inches of a rib just below the angle of the scapula. The pleura was much thickened, and no separation between the two layers could be recognised. A cavity containing about three-quarters of a pint of thick, dark-grey pus was evacuated, and the walls were found by the finger to be ragged and carnified. Drainage tubes were inserted, and subsequently the cavity was washed out with iodine solution. On one occasion this produced some distress, and the patient coughed up a good deal of bright blood; but on the whole he made a rapid and uneventful recovery. Dr. Shewen believed that the patient suffered from chronic pneumonia, which resulted in a cavity of non-tubercular character.

Case 2.—A male, aged 37, two months before admission caught cold, had rigors and a very severe cough, and took to his bed. On admission, there was constant cough, with profuse muco-purulent expectoration, dulness at right base posteriorly, faint tubular breathing, increased vocal resonance, and fremitus with some friction. A month later it was found that a cavity which existed at the angle of the scapula had filled up, the cavernous breathing had disappeared, the dulness had become absolute, there was scarcely any vocal fremitus, and no vocal resonance. An exploratory needle found stinking pus when it was introduced between the ninth and tenth ribs at the angle of the scapula. The chest was opened by the removal of two inches of the ninth rib, without difficulty, the pleural layers being adherent and the abscess being immediately beneath the pleura. About a pint of very stinking pus was evacuated; and on attempting to irrigate the cavity with boro-glyceride, the patient became very blue and the pulse failed, so the irrigation was given up and two large drainage tubes were left in. The discharge varied much; sometimes it would be little and free from odour, and then it would become suddenly profuse and stinking, and it evidently got retained somewhere. The cavity, however, gradually contracted, and about three weeks after the operation the patient got up, the discharge and sputum being still very offensive on violent coughing. A month later, when the cavity was reduced to a mere canal, the patient suddenly became much worse, expectoration being profuse, and almost the whole of the right axillary region became dull on percussion, with faint bronchial breathing, and another patch of gangrene was feared; but if this were so, it did not empty through the wound, for the discharge kept sweet, but the sputum again became most offensive. Three weeks later there was but little expectoration, and that was free from odour, and the patient from this time improved rapidly. When this communication was made there was still a sinus in the chest wall.

Gangrenous Abscess of Lung; Drainage; Recovery.—Smith (*Lancet*, July 20th, 1889).—A woman, aged 39, suffered from feverishness, malaise, and cough for a fortnight, and then became worse, with severe pain in her chest, expectoration of offensive sputum, and faintness and dyspnœa on sitting up in bed. The temperature ranged between 101° and 103°; the cough came on in violent paroxysms, and expectoration was slight in amount and difficult to get rid of. There was dulness below the point of the right scapula, not very marked and not extending quite to the base; around the dull area respiratory sounds were abolished, except on coughing, when moist sounds were indistinctly heard. Later, expectoration became profuse, and gurgling could occasionally be heard below the right scapula with loud cavernous cough sounds. Her general condition was extremely bad. An aspirator, inserted three inches, failed to find pus; but on making an incision in its track and boring inwards with sinus forceps, a cavity was reached, into which a drainage tube was passed. Not more than an ounce of pus escaped, but rapid improvement followed the operation, the discharge and the expectoration lost their fœtor, and in less than a month the patient was walking about, though still with a tube in the wound.

Empyema.—In the *Boston Medical and Surgical Journal*, Jan. 3, 1889, Dr. Nichols records six cases of Empyema, all of which were in the first instance treated by aspiration. Three of the patients recovered without incision of the chest, but two of these were children aged respectively nine and seven years, and in each of them the empyema eventually opened through the lung. The third recovery after aspiration only was remarkable. A stout female, aged 34, suffered from right pneumonia, and in the course of this premature labour came on. The patient was restless and delirious, dyspnœa was severe, the pulse rapid and the temperature high, and 80 ounces of odourless pus were removed by aspiration. The lung expanded somewhat and the dyspnœa was relieved, but fever and delirium continued. Four days later aspiration was again performed, and five times subsequently to this, 367 ounces of pus being removed at the various operations. The patient made a good recovery at the end of fourteen weeks with but slight sinking of the walls of the chest.

One other patient died seven days after the first aspiration, probably from peritonitis due to the empyema finding its way into the abdomen; the perforation did not arise until six days after the aspiration. The two remaining patients were both treated by incision after repeated aspirations and both recovered.

Removal of Carcinoma of Rectum by Sacro-coccygeal Method.—Ochsner (*Western Medical Reporter*, June, 1889).—The patient, a male aged 31, had suffered from symptoms of rectal trouble for two years, but his general health was pretty good. Under ether a tumour was felt in the rectum, which included the entire circumference of the bowel, and which was situated pretty high up (exact distance not stated). To completely empty the intestine, during two weeks preceding operation repeated doses of castor oil were administered by the mouth, and copious enemata, and the patient was kept on a diet of milk, eggs, and broth. Kruske's incision appears to have been followed with slight modification, but the exact amount of the sacrum removed is not mentioned. The upper end of the intestine was drawn down and stitched to the lower. An hour and a half was consumed by the operation, but there was good reaction afterwards. Seven days later fæces appeared in the wound, some of the intestinal sutures having evidently given way, and in a few days nearly all the fæces came by the wound. This condition, however, soon improved, until only a fistulous opening was left, which could be effectively controlled by the pressure of a pad of cotton so that neither gas nor fæces escaped, and in eight weeks the patient could walk about. It is recommended to follow Kruske's recent modification in dealing with the intestine for the future. By this plan the lower or anal portion of the gut is split right through behind, and then its upper margin attached to the lower margin of the gut above, the wound behind being left to granulate. Less strain is thus thrown on the sutures, and there is less chance of infection from the fæcal matter.

Pre-Cancerous Conditions of the Tongue.—Butlin (*Illust. Med. News*, March, 1889).—Mr. Butlin here relates the experience he has gained since the publication of his book on the tongue. He estimates that in about 70 per cent. of patients he has seen with cancer of the tongue, the growth has been preceded by some form of leucoma or chronic superficial glossitis. It is doubtful which of the chronic inflammatory conditions is most likely to lead to cancer, but probably that which was originally known as "icthyosis," in which the leucomatous areas are very thick and warty, is most dangerous. In a large number of cases a wart appears to have been the starting point of carcinoma. Such warts are "prominent, rounded or oval in shape, sharply defined, grey or reddish grey in colour, firm, painless, and at first not ulcerated. They are not indurated, and do not dip into the substance of the tongue. With regard to treatment, if the condition is one of "icthyosis," something midway between leucoma and warty growth, this should be removed when still of small extent by cutting deeply into the tongue, so as to enclose an ellipse, the surface being sutured. Conditions of ordinary leucoma and chronic superficial glossitis are so frequent, often so extensive and so much less dangerous, that it does not appear reasonable to remove them. When, however, a warty growth forms on these tongues, it seems desirable to remove the *whole* of the diseased area rather than to be content with removing the warty formation with just the surrounding margin. Two very interesting cases bearing upon this point are quoted. Mr. Butlin speaks favourably of the administration of arsenic in these various chronic conditions of the surface of the tongue.

OBSTETRICS.

BY ALFRED HARVEY, M.B.

The importance of External Pelvic Measurements in Obstetric Practice.—Dr. Pershing (*International Journal of Medical Science*, Feb., 1889) emphasises the valuable information that is to be gained as to the shape and size of the pelvis by external measurement alone. The important measurements are the external conjugate; the distance between the anterior superior iliac spines, and between the iliac crests; and the distance between the posterior superior iliac spines. The average difference between the true conjugate and the external conjugate is 3·75 in., and though there is some variation from this yet the following conclusions are justified:—If the external conjugate is less than 6½ in., shortening of the true conjugate is certain and likely to be considerable; from 6½ to 7⅛ shortening is extremely probable; from 7⅛ to 7⅞ the chances are even; from 7⅞ to 8½ shortening is highly improbable; and with any higher external conjugate than this, contraction may be safely excluded.

The distance between the iliac spines is with very slight variation just twice the transverse; and the relation between this measurement and that between the iliac crests gives valuable information as to the conjugate; the less the excess of the latter measure over the former the more the probability of flattening, and when it approaches to within half an inch or falls below it, shortening of the conjugate is certain and probably considerable.

The distance between the posterior superior iliac spines averages 3½ inches; in generally contracted pelvis it is diminished, but bears the normal ratio to the measurement between the anterior spines. In flat pelvis it is both absolutely and relatively smaller; this is still more marked in flat rachitic, kyphotic, and obliquely contracted pelvis. Pershing recommends that these measurements should be made in every pregnant woman as early as possible, and if they lead to the suspicion of any pelvic deformity, that then careful internal examination should be made.

A Second Cæsarian Section in the same Woman.—Skutsch (*Arch. für Gyn.*, 34, 1) reports a case of Cæsarian section performed a second time in the Clinic at Jena for rachitic pelvis. On opening the abdomen, the uterine and abdominal walls were found to be adherent; the uterus was also adherent both to mesentery and bladder. There were also adhesions between the mesentery, transverse colon, and abdominal wall. The uterus had to be opened *in situ*, an elastic ligature being used to control hæmorrhage. Notwithstanding the extensive adhesion, and though she had albuminuria, she made a good recovery. There were twin children, both of whom lived.

Inversion of the Uterus due to Shortness of the Umbilical Cord. Mr. W. Hutchinson, of Newmarket, describes (*Lancet*, 1889, i., 837) a case of complete inversion of the uterus in a primapare æt. 28. Inversion occurred immediately upon the birth of the child, and so could not have been due to the usually assigned causes. The accident was accompanied by profuse hæmorrhage; but the uterus was replaced manually, and the patient made an uninterrupted recovery. Mr. Hutchinson concludes: "I think there is no doubt as to the cause, namely, shortness of the cord (nine inches) and the weak and enfeebled state of the uterus consequent upon prolonged labour in a delicate woman."

The Forceps and Fœtal Mortality.—From the last annual report of the Marburg Obstetric Clinic we learn that the forceps were employed in less than one per cent. of all cases, three times in 308 cases; while the deaths and still-births amounted to no less than 13·4 per cent. The question arises, Would not an earlier use of forceps have materially lessened the fœtal mortality?

Acute Meningitis during Pregnancy.—Chambrelent reports (*Ann. de Gyn.*, Feb., 1889) seven cases of acute meningitis, some of them tubercular, occurring during pregnancy. In six cases pregnancy was terminated artificially with birth of living children, in the seventh delivery was spontaneous before the death of the mother. Microscopical examination of fœtal tissues with inoculation experiments on animals failed in every case to reveal fœtal tubercle. Chambrelent's practical deduction from these cases is that, in the interest of the child, labour should be invariably induced in cases of meningitis, whether tubercular or not, during pregnancy as early as the seventh month. As regards the mother, prognosis is without exception bad.

The Pathology of Adherent Placenta.—(Berry Hart, *Edin. Med. Jour.*, March, 1889).—Dr. Berry Hart has recently had the opportunity of examining microscopically two specimens of inverted uterus with placenta *in situ*; in the one specimen the placenta was normally attached, in the other it was very adherent. In the specimen where the relations were normal there were between the villi and uterine wall the following layers:—

1. Where serotina and villi meet a dense band of tissue which stains more deeply and is apparently formed of villi and serotinal tissue. Owing to its density its structure is difficult to make out, but it is probably connective tissue. Occasionally one sees in it cells of the large-celled layer.

2. *The large-celled layer.*—Sharply differentiated from the former; made up of large endothelial-like cells with nucleus and nucleolus. Scattered through this layer are many nuclei, which stain deeply with logwood.

3. *The spongy layer.*—A broad, well-defined layer with large spaces *lined by perfect columnar epithelium.*

4. A much less meshy layer lying on the uterine muscle. The contour of the muscle is not flat but toothed.

In the sections of adherent placenta the same structures could be made out, but the spongy layer was much less marked, the spaces were invariably smaller, and *in none could epithelium be detected.* There was no evidence of chronic inflammation. The cause of non-separation depended on defective development or pathological condition of the layer where the normal plane of separation lies.

Dr. Hart suggests a clinical classification of cases of adherent placenta.

1. Cases of total adhesion unaccompanied by hæmorrhage, where separation manually is easy, and is accomplished in the normal plane of separation.

2. Cases of partial adhesion, high up in uterus, where the placenta is separated at its lower part; often accompanied by severe hæmorrhage. The upper adhesion is extensive.

3. Cases of adhesion low down—the placenta being separated above—not usually accompanied by hæmorrhage.

4. Cases of very perfect adhesion, usually accompanied by little hæmorrhage, but where separation is effected manually with great difficulty. The placenta is usually separated where the *villi* and *serotina* meet, and thus the uterus is left with the usual deciduous layer of *serotina* still adherent, and often with portions of the fœtal placenta still attached.

The second class is most immediately serious; the fourth gives rise to most difficulty, and, as a layer of dead tissue is left behind, has most risk of septic infection.

REVIEWS.

AN ESSAY ON ASPHYXIA (APNŒA).*

It might be a question for the curious to determine whether Dr. George Johnson owes his reputation most to the fierceness of his polemics. the ingenuities of his theories, or the justice of his pathological observations. After more than forty years of strife, at an age that must equal or exceed the psalmist's allotted span, this veteran boldly enters the lists against the whole school of modern physiology and challenges Burdon Sanderson, Power, Michael Foster, Gerald Yeo, and Landois and Stirling, to defend themselves or admit they are wrong in their descriptions of the state of the heart in asphyxia and the cause of the failure of the circulation.

Put very briefly the dispute is as follows:—All authors down to modern times described the heart in asphyxia as showing *post mortem* distension of the right side with emptiness of the left, but in 1875 Burdon Sanderson, describing what could be seen in the opened thorax of a living animal suffocated by stopping artificial respiration, stated that both sides of the heart are gorged with blood after death, and he is followed in this statement by the authorities already named, while the *post mortem* emptiness of the left side, usually seen, is explained by the force of the *rigor mortis* of the left ventricle expelling its contents.

In opposition to these statements he quotes the account of the appearances in the chest of a man examined four hours after execution by hanging, where the left side was quite empty and the right gorged with blood; but it is evident that death from hanging is not death from asphyxia, but from cerebral anæmia, or from injury to the cervical spine or medulla. But he also quotes an experiment of his own, made in 1867, where a dog was killed by a ligature on the trachea, and examined as soon as it had ceased to move; and also an experiment performed by Dr. Rutherford in 1873, in which a dog was curarised, the thorax opened, and artificial respiration suspended. In the former the left side of the heart was empty, the right being engorged; in the latter, the systemic blood pressure at first rose with corresponding distension of the left side cavities. Then, as the blood pressure sank, these cavities emptied, and the veins and right side of the heart became full, and remained so till the animal died. Thus there is clear and diametrical opposition in the statements of the author and his opponents, which he endeavours to get over by suggesting that they used too much curare, so as to paralyse the vaso-motor nerves. Into this dispute we can hardly enter, leaving it for those concerned to defend themselves; but we may add a few words about the author's theory. This had better be given in his own words. "Artificial respiration being suspended, unoxygenised black blood at first passes freely to the left side of the heart and the systemic arteries and capillaries. Arrived there, either by its direct stimulation of the muscular arterioles or, more probably, by a reflex influence through the vaso-motor nerves and centre, the arterioles are excited to contract, and by this action . . . the blood pressure in the arterial trunks is increased, and the left cavities of the heart become distended and dilated. . . . The force which distends the left cavities in the first stage of apnœa is derived from the contraction of the right ventricle, and is thence transmitted through the pulmonary vessels. The circulation through the systemic arterioles is impeded but not arrested; some black blood passes through the capillaries, and this black blood becoming more and more entirely disorganised, arrives through the veins at the right side of the heart and the pulmonary vessels. Reaching the pulmonary arterioles and capillaries, it incites there the same arterial contraction and resistance as had before occurred in the systemic vessels." It is to this arrest of the pulmonary circulation that Dr. Johnson ascribes death from asphyxia; no blood, or very little, can reach the left side of the heart, so that the systemic circulation fails.

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* An Essay on Asphyxia (Apnœa). By George Johnson, M.D. Lond., F.R.C.P., F.R.S., London: J. and A. Churchill. 1889.

The points in this theory that require attention are (1) that the initial rise of blood pressure is due to a local stimulation of the vessels either of the muscular coats directly, or reflexly through the vaso-motor nerves and centre, and (2) that this contraction only occurs in parts reached by the impure blood, that in the lungs being delayed till the blood gets there; (3) that the obstruction to the circulation in the lungs is more complete when it does occur than in the systemic circulation when the passage of blood is "impeded but not arrested."

The first point is not in agreement with physiological or pathological fact; the presence of unoxygenised blood in the circulation of a part of the body other than the vaso-motor centre does not cause a local or general rise of blood pressure, while with reference to this and the second point it has been shewn that if oxygenised blood is supplied to the vaso-motor centre, the circulation of unoxygenised blood throughout the rest of the body causes no rise of blood pressure. It is therefore entirely a question of the supply of impure blood to the vaso-motor centre in the medulla, and when this is stimulated the effect is general throughout the body, causing a rise of blood pressure, which is however *less in the pulmonary artery than elsewhere.*—(Lichtheim, quoted by Stirling.)

But after the vaso-motor centre has been stimulated for some time it becomes paralysed, and the vaso-constrictor muscles relax. This fact Dr. Johnson ignores, for it is precisely at this time that he imagines the vaso-motor nerves in the lung (the existence of which has been long doubted, and which are certainly few and so feeble as to affect only very slightly the pressure in the pulmonary artery) are acting with such vigour as to produce a spasm sufficient to cut off the supply of blood to the pulmonary capillaries, and thence to the left side of the heart.

It is this assumed alternating action of the vaso-motor centre which is the weak point in the author's theory. It is not borne out by any authoritative physiological observations, in the absence of which we cannot recommend our readers to accept the conclusions of this essay, though they are supported by much ingenious reasoning. We trust that some of the physiologists whose facts and teachings are impugned in this essay will take an early opportunity of replying to it.

ESSAYS UPON HEREDITY AND KINDRED BIOLOGICAL PROBLEMS.*

NATURAL INHERITANCE.†

HEREDITY.‡

The three works whose titles are given above all deal with the question of Heredity, of late become so prominent a subject of biological investigation. They treat of it, however, from somewhat different aspects and with various measures of success. Professor Weismann's essays, which have appeared in German during the past few years, and of most of which abstracts have been given in the pages of *Nature*, have excited the greatest interest and attention. It is impossible here to give any sketch even of the author's views, but perhaps the most important and certainly the one over which most controversy has arisen, is his theory that characters acquired by the parents are non-transmissible to the offspring. By this is not meant disease, but such peculiarities as are due to use and disuse, climatic and other influences which may be summed up in the word environment. As most writers have awarded a large share of importance to such influences in the causation of varieties and the development of species, it is at once obvious how far-reaching the effects of such a theory are. Weismann seeks for an explanation of variation in the facts of amphigenic or bi-sexual reproduction and has interwoven his theory with his explanation of those interesting and perplexing structures the so-called polar bodies. Many other topics of interest are dealt with in these essays which are worthy of the attention of all students of biology.

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* Essays upon Heredity and Kindred Biological Problems. By Dr. August Weismann. Translated by E. B. Poulton, S. Schönland and A. E. Shipley. Oxford : Clarendon Press. 1889.

† Natural Inheritance. By Francis Galton, F.R.S. London : Macmillan and Cox. 1889.

‡ Heredity : a study. By R. A. Douglas Lithgow. London : Baillière, Tindall and Cox. 1889.

Mr. Galton's work is to a large extent founded on the results obtained from the family records which, it will be remembered, he was anxious to obtain some years ago. Many of the results are most interesting, and the mathematical problems introduced, some of which are from the pen of the Rev. Dr. Watson, will doubtless delight those interested in abstruse calculations. Many of the non-mathematical points will be more attractive to the general reader. It is interesting to observe that Galton's observations have led him to very similar conclusions to those of Weismann in several directions. Thus, he abandons the view of the heredity of acquired characters, though perhaps allowing of their possibility in the course of generations more fully than the last-named author. Again, his theory of particulate inheritance is similar in some respects to Weismann's view of variation, and his interesting observations on regression to mediocrity resemble Weismann's hypothesis of Panonisia. The scientific medical man will find much to interest him in this book.

Dr. Lithgow's book suffers from two weaknesses; a lack of arrangement—there is no division into chapters even—and a want of acquaintance with the great mass of literature which has appeared on the subject within the past five years. Hence it is likely to confuse and, to a certain extent, mislead those who are not themselves familiar with recent views on the subject.

SPIEGELBERG'S TEXT-BOOK OF MIDWIFERY.*

The New Sydenham Society has acted wisely in publishing a translation of the favourite German Text-Book of Midwifery. Spiegelberg's work is throughout characterised by thoroughness, not the smallest detail escaping him; indeed this is sometimes carried to excess, as in the calculation of the period of pregnancy by means of the measurement of the fœtus with callipers one arm of which it will be generally necessary to introduce into the vagina.

The arrangement of the whole work is very scientific. Spiegelberg did not consider that embryology lay within the scope of a midwifery text-book, and so with fœtal pathology, but every other branch of Obstetrics is most ably treated. The chapters on mechanism of labour, diseases of pregnancy, and on abnormalities of the organs of gestation and of the decidua, call for special mention; and puerperal fever is dealt with in a very clear and simple manner.

The points of difference between Spiegelberg's teaching and that of the English text-books are few and unimportant. The chief, perhaps, is his theory of the *determining cause of labour.* This the author considers to be the accumulation in the maternal blood, as maturity approaches, of certain substances which had till then been used up by the fœtus. These substances, which are assumed to be chemical irritants, by means of the blood call into activity the motor centres of the uterus. The frequent use of the forceps is deprecated. At the Breslau Maternity, which was under the author's care, the forceps were only applied in 2·4 p.c. of all cases, including cases where they were simply used for the purpose of instruction.

The difficulties in the pathology of puerperal eclampsia Spiegelberg gets over by the hypothesis that two entirely different conditions are confounded under the same name; that "True eclampsia depends on uræmic poisoning, due to an inadequate secretory activity of the kidneys;" while "the cases of eclampsia without albuminuria form a special group; they are acute epileptic attacks, the area of distribution of the sciatic nerve being the eleptogenic zone."

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* A Text-Book of Midwifery. By the late Otto Spiegelberg, Professor of Obstetric Medicine in the University of Breslau. Translated from the second German edition by J. B. Hurry, M.A., M.D. Cantab. 2 vols. London: New Sydenham Society. 1887-88.

A very full bibliography of recent literature is appended to each chapter, and the author is always ready to acknowledge the work of English and French obstetricians. The illustrations though not numerous are extremely useful; most of them are already known to English readers.

Praise is due to Dr. Hurry for the translation, which is always easy in style and quite free from Germanisms; some curious blunders however have crept in, *e. g.*, counter-irritations for contra-indications.

OBSERVATIONS ON SOME RARE DISEASES OF THE SKIN.*

THIS book is a reprint of some papers already published by Dr. Payne, and in a handsome volume of fifty pages is a valuable addition to our literature of Skin Diseases. Half of the book is devoted to Granuloma Fungoides, a disease first described by Alibert, and characterised by the presence of numerous tumours which are preceded by an eruption of red patches on the skin, on the basis of which the tumours develope. The skin covering them soon ulcerates, exposing a smooth moist surface which being often red led Alibert to compare the lumps to tomatoes. They vary in size from that of a pea to that of a large apple. They vary in the rapidity of their growth and generally break down and ulcerate, sometimes disappearing completely. No organs except the skin are at all constantly affected, though the lymphatic glands may become enlarged.

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* Observations on some Rare Diseases of the Skin. By J. F. Payne, M.D. London: Smith, Elder and Co. 1889.

The course of the malady appears to be almost invariably progressive and fatal. The French school hold the disease to be a "lymphadénie," while others regard it as a sarcoma, but Dr. Payne does not accept either of these theories. He considers the disease a specific one, and that its manifestation, the tumours, are a species of granular tumour or granuloma, and that, though as yet no specific micro-organism has been found, such a cause may be possible, though he inclines rather to the idea that the cause may be of a soluble or diffusible kind, and not living.

The other paper of importance is one on a case of Erythrasma, a newly described disease in some respects like eczema marginatum occurring on the scrotum and the adjoining part of the thigh. It is due to a parasite, the microsporon minutissimum.

Brief references to Pruritus Hiemalis and cases of Beaded Hairs complete the volume, which is of great value to all students of dermatology.

CREMATION AND URN-BURIAL.*

It is most sincerely to be hoped that the prejudice against cremation will be speedily overcome, and that this rational and decent method of disposing of the dead will before long come into general use in this country. From how many points of view is the present fashion objectionable? It is repugnant to the feelings, as everyone must admit who has attended a funeral and seen the coffin containing a well-loved one let down into a damp hole in the ground. It is disgusting to the imagination and in fact; for what can be more horrible than the process of decomposition in a confined space, and retarded by the protection afforded by the coffin and coverings of the body? It is unhealthy, numerous instances of illness having occurred from drinking-water being polluted by churchyard drainage, and by direct poisoning from the emanations from partly decomposed bodies in exhumations, etc. It is leading to an enormous appropriation of land, which, if civilisation with its present prejudices and power to protect them persists, will in a very few years become a very serious thing. The present volume is intended to point out the numerous advantages of cremation and the horrors of the present system. This is done in a pleasant, popular way, and the work is illustrated with a number of plates of funeral urns, which, as suggested alternations to the conventional coffin, ought to weigh with all persons who are open to æsthetic considerations. We cordially wish the book every success in its good purpose.

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* Cremation and Urn-Burial: or Cemeteries of the Future. By W. Robinson. London: Cassell and Co., Limited. 1889.

Letter to the Editor, etc.

To the Editor of the "Birmingham Medical Review."

Dear Sir,—It may be of interest to yourself and your readers to know that Antipyrin and Lanoline have just been adopted as officinal in the Austrian Pharmacopœia. This is perhaps a most important endorsement of the value of these two new additions to modern materia medica.

Is it not significant as showing that Lanoline is the ointment base of the future that it has been adopted in the Austrian officinal formula for the preparation of Unguentum Hydrarg., while Vaseline, which has now been introduced many years, is not yet adopted in a single instance?

Hoping you will deem this of sufficient interest to your readers to mention it in your journal, we are, yours very respectfully,

BURROUGHS, WELLCOME & CO.

July 26th, 1889.

INTERNATIONAL MEDICAL CONGRESS.

We, the undersigned, do hereby give notice, that according to the resolution passed at the Washington meeting, Sept. 9th, 1887, the Tenth International Medical Congress will be held in Berlin.

The Congress will be opened on the 4th and closed on the 9th day of August, 1890.

Detailed information as to the order of proceedings will be issued after the meeting of the delegates of the German Medical Faculties and Medical Societies at Heidelberg on the 17th of September in the current year.

Meanwhile, we should feel sincerely obliged if you would kindly make this communication known among your medical circles and add at the same time our cordial invitation to the Congress.

VON BERGMANN. VIRCHOW. WALDEYER.

NEW INVENTIONS, DRUGS, ETC

MESSRS. SOUTHALL'S AËRATED DISTILLED WATERS.—A recent writer on Bright's disease has said: "Permanent hardness in drinking water, due to excess of lime salts, is an undoubted cause of the uric acid dyscrasia in the persons who use it, and thereby it is an indirect cause of Bright's disease. Throughout this district (Warwickshire, Staffordshire, and Worcestershire) the drinking water is very hard, and its relation to uric acid formations is to my mind beyond all question." (Dr. Saundby, "Lectures on Bright's Disease," p. 202.) We are therefore very glad to draw attention to a new enterprise undertaken by Messrs. Southall Bros., of Bull Street, who are now manufacturing aërated waters of all kinds made with distilled water. They supply a simple aërated distilled water, soda, potash, lithia, seltzer, lemonade, etc., the advantage being that they contain nothing but those substances which are intentionally and especially free from lime. We have seen several cases of renal stone and gout in persons who were abstainers from alcoholic drinks, and in whom no other cause could be found than the hard water, and who have been cured by drinking only soft water. The prices at which these waters are offered compare favourably with most in the market, and especially with the aërated distilled water made in London, and sold under the name of Salutaris water. They are, moreover, extremely pleasant to the taste.

Miscellany.

A QUIET BEDFELLOW.—When the —th Hussars were at Umballa they had in the regiment an old paymaster of the type that got into the army about the time of the Crimean war ; his manners were rough, he usually got comfortably drunk every night at mess, and he was by no means popular. One night some officers put a tame bear belonging to one of them into the old man's bed, and having removed all means of obtaining a light waited in hope of hearing a lively scrimmage when the two bears met. After some time their victim came in ; he swore at his bearer for leaving him no light, searched in vain for matches, then pulled off his uniform and got into bed. Instead of the anticipated scene following, all that rewarded the patience of the watchers was hearing him grumble drowsily. "Can't you keep your own side of the bed?"

New Books, etc., Received.

The Clinical Use of Prisms. By ERNEST E. MADDOX, M.B. Bristol: John Wright and Co. 1889.

The Classification, etc., of Diseases of the Skin. By HENRY S. PURDON, M.D. London: Baillière, Tindall and Cox. 1889.

A Textbook of General Therapeutics. By W. HALE WHITE, M.D., F.R.C.P. London: Macmillan and Co. 1889.

Secondary Mixed Infection in some of the Acute Diseases of Children. By BAYARD HOLMES, M.D. Reprinted from the *North American Practitioner* for 1889.

⁂ Authors can have reprints of articles at the following rates :—

Not exceeding	8 pages	...	8/- per 100
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The re-arranging of the type is the principal cost in the production of these reprints, so that smaller numbers will be the same price. Larger numbers at a proportionate reduction.

NOTICE.—*All Communications should be addressed to the Publishers, Messrs. Hall and English, 71, High Street, Birmingham.*

THE

BIRMINGHAM MEDICAL REVIEW.

OCTOBER, 1889.

ORIGINAL COMMUNICATIONS.

NOTES FROM MR. LAWSON TAIT'S CLINIQUE.

Series I.

M. A. G., aged 25 years, married six years, two children living and one died at birth, premature (seven months). Last child 11 months old and healthy. Menstruation commenced about 15. Always regular, period about five days. No intermenstrual discharge. She has noticed a lump in abdomen since the birth of last child, it was at first situate on the right side in the lumbar region.

Her first child was born one year and seven months after marriage, and she was laid up for three months with "fever" after delivery. Since then she kept well until the birth of her last child. Her first symptoms were severe pain in right loin. This continued for three months, coming on every day at about 11 o'clock and lasting about one hour. Then for three months she was free from pain. Pain recurred and spread over the abdomen. Vomited occasionally in the morning between breakfast and dinner hour. Vomit sometimes greenish and at other times simply her food unchanged. The tumour has been increasing in size continuously, more rapidly during the last three months. She thinks it has varied in size, getting smaller sometimes. No urinary troubles. Says urine is sometimes gritty. Bowels rather costive.

Parovarian cyst embedded, splitting up the broad ligament.—The above history was given to me in the middle of June, 1888, by a patient sent to me by Dr. Nelson. She suffered very considerable distress from a tumour firmly fixed in the pelvis, which had been growing with marked rapidity. The nature of the tumour was not at all clear, but as the pelvic limits were obliterated completely it was perfectly clear that the broad ligament had been split up, and the tumour was, as we say, embedded. Very faint fluctuation was discovered in certain diameters, but not in others, and although I made the diagnosis of parovarian tumour, I was not at all certain that I had not to deal with a soft œdematous myoma. I opened the abdomen on June 19th, and from the colour of the tumour was at once satisfied that it was parovarian. I therefore tapped it and removed about a pint and a half of fluid. The peritoneum ran from about the second or third lumbar vertebra straight on to the tumour, dipping down on both sides as far as the limits of the false pelvis, but not at all into the true pelvis so that the two folds of the broad ligament were completely separated by the growth of the tumour.

I made an opening in the peritoneal covering of the tumour where I had tapped it, that is to say, in the anterior upper part and, with a good deal of trouble, enucleated the cyst from its bed. The hæmorrhage was very slight, a drainage tube was left in for six and thirty hours. The patient made an uninterrupted recovery, going home on the 6th of July.

C. S. H., aged 33, single, commenced to menstruate at 16 years; last menstrual period two weeks ago. Has been ill for from seven to eight years, but has never been robust. She has never menstruated regularly, sometimes nine and ten months elapsing between her periods. On one occasion she saw nothing for more than twelve months. This was previous to her present illness. Her losses were usually scanty.

From seven to eight years ago she had a bad attack of diarrhœa and dysentery, and what she called "inflammation of the womb." Since then the periods have been at intervals of three weeks, lasting ten days; copious. The diarrhœa has continued on and off ever since. She usually has a good deal of pain during the period, principally on the left side. This has been much worse during the last seven years, and continues to get worse, spreading over the abdomen up to the chest. In the intervals between the periods, a yellowish white discharge, which has gradually increased in amount and got thicker. For the last year and a half she has been totally invalided and in bed.

Three years ago she was operated upon in America for occlusion of the cervix without any beneficial result. In January last had a uterine polypus removed. When quite a child had an attack of scarlatina. Has had pneumonia three times, and pleurisy once. Five years ago she wore a pessary for anteflexion for ten months. For the last three years she has had great pain on passing a motion.

Present Condition.—Menstruates every three weeks, lasting ten days, profuse in amount, painful. Pain mostly on left side, where it is tender to the touch. The discharge between the periods is thick, yellowish white.

The patient whose case is narrated above was sent to me by Dr. Heywood Smith, in June, 1888. On examination, in the pelvis the uterus was found to be slightly retroverted, and quite fixed by bands of adhesions. The uterine appendages could not be felt. As my opinion coincided entirely with Dr. Heywood Smith's, that the patient was suffering from chronic ovaritis with adhesions, not likely to be benefited by anything short of removal of these organs, I opened the abdomen on July 2nd, and found the ovaries and tubes densely adherent on the upper part of the broad ligament. They were separated with very great difficulty, and removed. The patient made an easy recovery, and left on July 23rd. I have since heard that her condition, except that menstruation has been suspended, has not been much relieved. The time which has elapsed is far too short for anything like a satisfactory conclusion and for the ultimate result to be arrived at.

E. A. M., aged 30, married, first menstruated at 16, was irregular for nine months, for no special reason that she knows of. Since then she has been quite regular. She is generally unwell for about seven days, loses profusely and used to have a great deal of pain. Since her marriage her menstruation has not given her so much trouble. Her chief trouble is that she bears no children.

The patient was sent to me by Dr. Wood, of Douglas, Isle of Man, as a case of pelvic peritonitis, with a temperature rising from 101° to 102°, and a pulse from 112 to 115, persistent night sweats and diarrhœa. She was very much reduced, weak and exhausted from her illness. The uterus was displaced backwards with a cystic mass to the left side. As this patient had never been pregnant and was very anxious to have children, she had been submitted to a good deal of local treatment, consisting of dilatation of the cervix and otherwise, but without any creditable result.

On attempting to open the abdomen, I found that the usual incision lead me into one of the congenital cysts of which I published an account in the *Gynæcological Society's Transactions* for 1886. Having cleaned it out I put a drainage-tube in, and the patient had an immediate fall of temperature and pulse, which was maintained steadily until her return home to the Isle of Man on the 28th of July. I subsequently received information from Dr. Wood that the suppuration went on for some considerable time, until a fæcal fistula formed. This slowly healed and the patient got perfectly well.

E. B., aged 39, married 17 years, first menstruated at the age of 15, and was always regular until two years after marriage. She then commenced to menstruate too frequently, about every eighteen to twenty days, and had a great deal of pain on left side just previous to and on the first days of period. During the last fifteen years she has had a yellowish discharge between the periods. This has not been quite constant, but during the last six weeks it has much increased in quantity. Has no children, and has never been pregnant.

Present Condition.—Loses less now than formerly, periods regular. Last period three weeks ago, she lost more than usual and had a great deal of pain. The pain is very violent and spreads to rectum and vagina, and right side, but is always worst on left side. Copious purulent discharge.

This patient was sent to me by Mr. Hallwright, and her sufferings were so great that we both judged it to be necessary to interfere by surgical operation, seeing that all other methods of treatment had failed to give relief. I therefore opened the abdomen on July 10th, and found the appendages densely adherent, and both tubes occluded and distended with serum. The patient made a rapid recovery, and left on July 30th.

E. S., age 42, married 25 years, twice; has only had one child, who is 24 years old. Menstruation commenced at 13; was always regular until three years ago. Two years ago she underwent an operation for cystoma of left ovary. Three years ago she ceased to menstruate for six months; then she took medicine, and lost almost continuously for six months, when her first operation was performed. She was quite regular and well for sixteen months after the operation. Four months ago she ceased to be regular, and has seen only a slight show on three occasions. First noticed a return of tumour twelve to fourteen months ago. Was pretty well until two days ago. In stooping under a barricade she felt something like a rupture in her inside. The pain was so intense that she could not stand, and thought she would have died.

Present Condition.—Abdomen prominent, tympanitic above pubis; face florid; breathing hard; coughs; pulse weak and rapid.

I had removed the left ovary for cystoma in this patient about three years before. She was brought to me on the 12th of July in a condition of advanced collapse, her face being pinched and worn, pain intense, and pulse hardly perceptible. I immediately opened the abdomen, and found a large ovarian tumour which had ruptured from axial rotation. After the operation the pulse was 124, and it fell day by day until the fifth day of the operation, when it was 82; and about that it remained until she left on July 30th.

M. J., age 49, single, commenced to menstruate between 10 and 11. Ceased to menstruate seven months ago. Menstruation has usually been irregular, sometimes with two and sometimes three weeks' interval; very copious. She improved under iron.

Six years ago she first noticed some soreness in the left side. This, with slight intermissions, has continued ever since. Besides this she has had such severe attacks of pain in the left side that she has had to lay up. About this time (six years ago) she said she got very stout; but her medical adviser told her it was dropsy. She noticed that her urine at the time was scanty, dark coloured, and muddy, and there was some pain in the back. The œdema continued for four years, but abated considerably after the first month under treatment. She is generally costive, and has frequently to take aperients. There is severe pain during and for an hour after passing a motion. If she has taken a good deal of food this pain is much worse, and feels like a band across her abdomen. Fæces are generally hard, dry scybalous masses. Some tissue-like-looking substance was passed per rectum, which, on examination by the microscope, proved to be undigested or incompletely digested food, showing fragments of striated muscular fibre and degenerated cell structures.

This patient was brought to me by Dr. Yelverton Pearson of Cork, suffering from intermittent indications of intestinal obstruction. All the symptoms pointed to some obstruction on the upper part of the descending colon, because after a period of costiveness and when considerable obstruction arose, a distinct mass could be felt on this point. After very careful consideration, and more than one examination under an anæsthetic, we determined to make an exploratory incision to discover the cause of the obstruction, and both Dr. Pearson and myself were under the impression that it was due to some new growth. I performed the operation on August 4th, and found a matting of two coils of small intestines across the descending colon in such a way as very markedly to diminish its calibre. I very cautiously undid these adhesions, and succeeded without damage in removing both coils from their position, and then closed the wound. The result has been completely satisfactory in every way, as the patient has had no return of her former symptoms, now nearly a year ago.

A. S., aged 36, single; menstruated first at 14 or 15 years of age. Regular until the middle of December, 1888, period lasts usually from four to five days. Saw nothing from December, 1888, until March, 1889, then an ordinary period came on; since then has seen nothing. She suffered much pain in February, and again in May and June. The pain is all over the abdomen, passes around her right hip and down the thigh. Her abdomen has gradually got larger, until now it is like a sixth months' pregnancy. Had measles and chicken pox as a child.

In general examination the cervix was found to be occluded by a tough membrane, which was distended very like a bag of membranes in the early stage of labour. I put her under an anæsthetic and divided the membrane freely, and about a pint and a half of the characteristic brown treacly fluid was discharged. I then washed the uterine cavity out by the protracted use of a warm water douche. She made a very easy recovery and went home on about the tenth day. The remarkable feature in this case is one which is to me altogether unique; that she should begin to menstruate at 14 and continue to do so regularly till the middle of last December, a period of twenty-two years. The arrest of menstruation from December until March, looked of course more like a pregnancy than anything else, and the condition of the uterus by external examination confirmed this opinion. Vaginal examination, however, revealed the facts—firstly, that the patient was absolutely virginal, and, secondly, revealed the presence of this tough membrane which is altogether inconsistent with the idea of pregnancy, and as the membrane was distended, feeling like a hollow half-inch india rubber ball, with a diameter of about two inches, there could be no doubt as to the nature of the case. What produced this membrane, however, is a puzzle.

TWO CASES OF TUMOUR OF THE BLADDER.

BY F. MARSH, F.R.C.S.,
SURGEON TO THE QUEEN'S HOSPITAL, BIRMINGHAM.

THESE two cases, though peculiar in some details, well illustrate the two chief classes into which Tumours of the Bladder may be grouped clinically, viz., Innocent and Malignant. The former class are favourable for, and as a rule curable by, operative procedures; the latter seldom even permit of an attempt at removal. Partial removal and perineal drainage of the bladder have afforded relief from the most distressing symptoms—increased frequency and painful micturition and hæmaturia—in one or two instances where resection of the growth was obviously impossible.

Case I. –G. P., æt. 45, Market Hall Porter.

Family History.—Father died when 33 years old; cause unknown. No history of cancer, phthisis, or gout.

Past History.—Until four or five years ago he was a hard drinker; beer being his favorite beverage. He has never had any serious illness. In January, 1886, he first noticed blood in his urine, mixed with it, but redder at the commencement of micturition, which process was associated with a dull aching pain referred to just above the pubes. No pain was felt at other times. Under treatment he got perfectly well from these symptoms in about three months. In October, 1887, he again noticed the appearance of blood in his urine, accompanied by the old pain, but according to his statement some blood came before the urine, dark and with clots. He came under my care as an out-patient at the Queen's Hospital, and on passing urine in my presence, the blood and urine were well mixed and of a bright red colour. On examination with the sound and .per rectum, a soft elastic swelling can be defined in mid-line and to the left side of the bladder; the beak of the sound seemed to catch in the growth and increased the amount of blood in the urine next passed. There was a marked absence of induration. The patient, having a great dread of any operative procedures, declined admission as an in-patient. He was ordered as an astringent ten grains of sulphate of alum three times a day, and in the course of a week the hæmaturia disappeared, and for two months there was no return. At the end of this time, after a fit of coughing, profuse hæmaturia came on and continued for 36 hours. He also noticed that his penis, scrotum, and left leg were slightly swollen. For a period of fourteen days the urine was clear, though the swelling of the leg, etc., increased. Again the hæmaturia recurred, though not present every time micturition took place, appearing perhaps twice to many times in the twenty-four hours. This condition persisting, he was admitted as an in-patient January 25th, 1888.

Present condition.—The patient is a sallow-looking man, anæmic, and somewhat cachectic and has lost flesh since last October. The penis, scrotum, and left leg are very œdematous. Nothing can be detected by external palpation in lumbar iliac or suprapubic regions. He has no pain in the lumbar region, or during micturition, which takes place with increased frequency both day and night.

Examination, per rectum and with a sound, shews that the swelling previously noticed is more marked, especially on the left side; there is no induration, and the prostate is normal. Examination increases considerably the amount of hæmaturia. Microscopically the urine shews blood corpuscles, triple phosphates, uric acid, and debris of no definite structure—chiefly blood cells, and bladder epithelium entangled in fibrin. A small quantity of albumen was present.

There was no doubt that a soft malignant growth, probably sarcomatous, occupied the lower part of the bladder, especially involving the left side.

I proposed a median perineal cystotomy for the purpose of a more thorough examination, and possibly to afford him some relief from the more important symptoms. He however declined to submit to any operation that would not hold out a prospect of complete cure. During the eight days he was in the hospital he continued in much the same condition; the œdema slightly diminished with rest in bed, but the hæmaturia persisted, internal remedies having no effect upon it. He was discharged on February 2nd as he had rendered himself obnoxious in the hospital, and I have since ascertained that he died soon afterwards.

Case 2.—Thomas W., æt. 25, coach-builder

Family History.—Unimportant.

Past History.—Early in the year 1886 he suffered from gonorrhœa, which lapsed into a gleet and was some months getting well. Twelve months later he began to suffer discomfort after micturition, experiencing a dull, aching pain in the suprapubic region, lasting for a day or two and then disappearing for about a fortnight. It was only felt for a short time after emptying the bladder. About this time increased frequency of micturition during the day was noticed. In July, 1887, he first noticed blood in his urine, mixed with it, but at times it seemed as though it was only pure, dark-coloured blood that passed. Frequency of micturition was much increased, and at times he could not hold his water for ten minutes; the pain, too, was more severe, extending to the penis and testicles, often continuous, but relieved after emptying the bladder. There has never been any sudden stoppage of the stream. He came soon after this to the Queen's Hospital under my care as an out-patient. He was carefully examined with a negative result. The use of the sound increased, however, the amount of blood in the urine next passed. Under treatment the symptoms disappeared, and he continued well for six months, when there was a return of the pain, hæmaturia, and frequent micturition, lasting about four hours and then disappearing. His urine was generally clear and normal.

Three weeks later, Feb. 8th, 1888, he was admitted as an in-patient and again carefully examined with a sound and per rectum with a similar negative result. The day following I passed a flat-bladed lithotrite and brought away a shred or two of growth which, under the microscope, shewed a papillomatous structure. I may say here that the hæmaturia which immediately occurred on an instrument being passed, whether present before or not, would have rendered the cystoscope in this particular instance of little diagnostic value.

On the 16th Feb. I performed the usual suprapubic operation, using the rectal bag and distension of the bladder with boracic solution, the only noticeable detail being the extreme thinness of the bladder wall. On opening the bladder the boracic fluid was deeply tinged with blood, quite obscuring vision. Nothing could at first be detected; but on a methodical examination, what felt as a rough patch was detected near the base on the right side This was scraped with a Volkmann's spoon, and a few papillomatous shreds with blood-clot washed out. Nothing further could be discovered. The bleeding, which had been profuse, was now less. The bladder wound was carefully sutured with numerous fine silk sutures, the mucous membrane being carefully avoided. The bladder was tested to see if it was watertight, and as it leaked a little at the lower angle, another suture was inserted here. A catheter was not tied in. The first few days there was increased frequency of micturition, with pain, but very little blood in the urine after the first few hours. Cystitis however supervened, and on the fourth day a few drops of urine found their way through the wound. This increased in quantity, and at the end of a week none was passed by the urethra. The cystitis rapidly improved and the temperature kept normal. In a fortnight, twenty days after the operation, he commenced to again pass urine by the urethra, and in another week the wound was healed, all the urine was passed normally, though a little pain was experienced during and for a short time after micturition. The bladder was daily washed out with boracic acid solution.

On March 19th, six days later, this pain had disappeared, but a neuralgic pain was felt in the cicatrix, shooting down to upper part of thigh, and probably due to implication of a branch of the ilio-inguinal nerve. This lasted nearly a month and gradually disappeared.

He was discharged April 25th, much improved in health, and passing water three or four times only in the twenty-four hours A little pain still accompanied the act of micturition, and a small quantity of pus was present in the urine, which otherwise was normal.

May 23rd, 1888. Considerable improvement has taken place in his general health. There is still a small quantity of pus in the urine, and on one or two occasions he has passed fragments of phosphates, one of which became impacted in the urethra, it was however pushed back by the patient with his catheter, and subsequently passed when washing out the bladder. From the oval or pyriform shape of these fragments I concluded they had been formed round sutures which had ulcerated their way into the bladder. They fully explained the persistence of pus in the urine. No other fragments could be detected on examination with a sound. During the next few months the patient continued in much the same condition, occasionally passing a fragment and a small quantity of pus persisted.

At the end of July, in conjunction with my colleague, Mr. Jordan Lloyd, a careful examination of his bladder was made with the cystoscope. The following appearances were noted:—Bladder wall normal, but there is a dark coloured patch over the site from which the papilloma was removed, and on the anterior wall is seen a small calculus apparently attached over the lower part of the site of the suprapubic incision.

On Sep. 3rd he was admitted as an in-patient and a second cystoscopic examination gave a similar result, except that the calculus could not be seen. The next day, under an anæsthetic, I thoroughly explored the bladder with a lithotrite but could neither seize nor feel a calculus, nor could I extract one with an evacuator. However, a fortnight later a fair-sized oval calculus became impacted in the urethra and was passed the same way as the large one on a previous occasion. I made a section of this and found the nucleus was a small silk suture, the *fons et* *origo mali.* Since then marked improvement has taken place in the patient, though there is still a trace of pus in the urine. In all other respects the man is strong and well, and there has been no hæmaturia since the operation.

The points which seem to call for special notice are:—

In case 1, the long interval elapsing between the first and second attacks of hæmaturia, a year and nine months; the absence of induration; the comparatively slight bladder symptoms; the œdema limited to the penis, scrotum, and left leg; and the rapidly fatal termination. I much regretted the unavoidable loss of a *post mortem* examination, it would have been both of value and interest.

In case 2, the occasional attacks of intense vesical irritation, with the profuse hæmaturia, caused by such a small papillary growth, and the complete cure of these symptoms by the operation. This case also illustrates a sequence of suture of a bladder wound which I particularly wish to emphasise, as it has hitherto not been sufficiently noticed by writers on this subject, but which must considerably influence the question of suture or non-suture in these cases, or, rather, the nature of the suture used. It is the tendency of silk or other indestructible sutures to work their way through the mucous membrane of the bladder —possibly owing to the constant movement of the muscular coats of this organ. On this suture, as soon as part of it appears in the bladder, phosphates, or urates, or both, are deposited, and we get one or more small pyriform calculi hanging from the anterior wall and keeping up a chronic cystitis. As the calculus increases in size, its weight and movement assist the separation of the suture, and at length it falls into the bladder and may or may not be passed by the urethra. There may be several of these calculous formations, not necessarily appearing at the same time, but perhaps following each other and spread over a considerable period, a complication not to be desired in the interests of the patient or surgeon.

To shew that this is not an isolated occurrence, I will briefly refer to a patient I saw in August, 1888, for my colleague, Mr Jordan Lloyd, during his temporary absence The patient had some time previously undergone suprapubic lithotomy with rapid primary union after suture of the bladder wound, and was well in a few days. He now complained of symptoms pointing to another calculus. I sounded and found one, and when the patient was emptying his bladder immediately afterwards, there was a sudden stoppage of the stream followed by the sharp impact of the stone against the vessel, much to his delight. From the shape of the stone, almost identical with those in my own case, I had no doubt it also had its origin from a suture, a view subsequently verified by Mr. Lloyd.

The experience of these cases alone conclusively shews that in the comparatively few cases which appear favourable for obtaining primary union by suturing the bladder walls an absorbable material must be used, otherwise, notwithstanding every care on the part of the surgeon not to include the mucous membrane in the suture, a risk of this troublesome calculous formation will be incurred.

REMARKS ON A CASE OF APHEMIA, OF ELEVEN MONTHS' DURATION, WITH SUDDEN AND COMPLETE RECOVERY.*

BY T. STACEY WILSON, M.B. EDIN., M.R.C.P. LOND.

THE subject of these notes is a man named F. C., who was admitted into the General Hospital on September 16th, 1885, and was then aged 46. He came under the care of Dr. Simon, to whom I am indebted for permission to make use of the case.

On admission, F. C. was found to have almost no power of articulate expression, together with a slight impairment of his power of reading intelligently, accompanied by a feeling of fulness in the head He had been in this condition for three days.

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* Read in part before a meeting of the Clinical and Pathological Section of the Branch of the B.M.A.

Family History.—Father subject to epilepsy; two or three brothers fairly healthy. He has three children living and healthy and has lost two, one from convulsions during whooping cough and one from "fever."

Previous History.—Has suffered from rheumatism a good deal, and has been confined to bed by it on two occasions for two or three weeks during the last nine months. (He had another severe attack of it in December, 1888.) There is no definite history of syphilis to be obtained, although he had gonorrhœa followed by sore throat six years ago.

Present Illness.—For the last three or four weeks he has been very irritable and easily "put about," but seemed better and quieter for some days before the attack. Three days before admission (on the 13th Sep) he seemed quite as usual up till evening, and did not complain of anything. About 9 p.m. a friend who was visiting him noticed that he "looked as if he were going to faint," and asked if anything was the matter, to which F. C. replied irritably that he felt sleepy and wanted to be let alone. In about two or three minutes after this his head drooped and he fell sideways off his chair. He recovered consciousness in two or three minutes and seemed all right, except that he could not speak. He could understand everything that was said and could write clearly, and complained of his head feeling "large."

On Admission.—Patient seems quite intelligent, and can understand perfectly what is said and can answer in writing, but he cannot speak. He can with difficulty be got to make the vowel sounds and also to alter the pitch of the sound produced, but he is very uncertain in doing so. He states that he tried to read yesterday, but although he could see the words clearly, the meaning was confused. On testing him, it is found that he can read single words intelligently, and understand a book if only a single line is shewn him at a time, but on looking at a whole page of a book he gets confused, and, to use his own words, he cannot read it because he wants to go too quick. His memory for words seems perfect.

September 20th. Complains of feeling stiff in his cheeks, and of having much pain all night in his jaws. Yesterday he seemed to have more difficulty in phonating than formerly, and could not be got to say "ah" so readily.

September 24th. Mouth still pains him, and cheeks are a little swollen and puffy. He has some difficulty in swallowing his saliva, and has completely lost the power of phonating.

He was discharged unrelieved on Sep. 24th.

There were no signs of heart mischief, and no paralysis could be detected. His temperature was normal, except during two days nearly a week after admission, when it ranged between 99° and 100°, and reached 100·2° on the evening of Sep. 23rd. Urine, sp. gr. 1022, acid with a trace of albumen.

Subsequent History.—He remained dumb after leaving the Hospital, but could soon transact his business as usual, except for having to write on a slate instead of speaking. The difficulty in reading very soon disappeared. He was interviewed in January, 1886, and was then absolutely dumb, just as when he left the Hospital.

During the next six or eight months he had several slight seizures of an epileptiform character; one was described as a "fainting fit" in which he was convulsed and "his arms and legs worked," and on two occasions suffered from prolonged periods of unconsciousness, during which he behaved as a more or less rational being. One of these may however have been simply due to alcohol, but on the other he travelled to London and went to visit a relative there without being in the least degree conscious of the journey or of any reason for his making it.

On a third occasion, in August, 1886, he started off from his workshop without changing his working apron and leaving the door unlocked, and went, he does not know how, to Wolverhampton or Bilston, for he remembers nothing till he found himself walking on the road between Bilston and Wolverhampton. But when he came to himself he was conscious of what he described as a "dreadful" sensation in his head, but he also felt that he could speak. In order to test his power he accosted the first person he met, who happened to be a woman, and asked the time of day. He says he felt rather strange, and he must have looked strange also for he so frightened the woman that she ran off as fast as she could without staying to answer his question. From that day however his speech returned perfectly and has remained perfect since.

During the eleven months that he was dumb his memory was good, except for what happened in the fits referred to; his hearing and sight were normal, and he seemed in very good health. He occasionally however had peculiar sensations in his head, and if anyone spoke to him suddenly and he forgot he was dumb and tried to answer, he would suffer from "a very queer feeling and pain" in both sides of his head just above his ears, and this was accompanied by a "feeling of shock" and "sudden stoppage" which irritated him very much.

He was interviewed again in the spring of this year and then seemed the same as usual, his hearing and memory good, his sight seemed normal, and his field of vision and pupils were also normal.

Ever since his attack, however, he has been very irritable and irascible, so much so that his wife and children have had to give up living with him. He also seems to have been rather too fond of alcohol, although he has not indulged to such an extent as seriously to affect either his appearance or his employment.

He still has occasional attacks of pain in his head accompanied by a degree of confusion which lasts for a few minutes. To use his own words "his head feels very large;" "when he puts his hand up to it he seems to feel it before he does." When he is suffering thus his head "feels mixed" just as it did the day when he recovered his speech; he is "mystified" and "meythered," and cannot do his work for a time.

Remarks.—There are many points of interest about this case apart from its great rarity, and among them I may mention the fact that he recovered his speech after a complete aphemia of eleven months' duration, and that he recovered it suddenly and completely, thus contrasting strongly with the extremely interesting case of aphemia recently republished by Dr. Bristowe* in which the initial lesion was apparently of a more extensive type, and the aphemia was cured by re-education after a lapse of nine months.

I think it may be worth while to go rather more deeply into the points raised by this case and see if it be possible to find anything of the nature of an explanation of its chief features, or, at all events, of a "working hypothesis" for the mode of their causation.

In the first place, there was here a loss of control over the motor centre for articulate language due either to some temporary vascular disturbance (*e.g.* a sudden local anæmia) that might be called functional, or else to some more serious lesion, such as a small hæmorrhage or the occlusion of a small vessel followed possibly by a very localised patch of softening. But whatever the extent of the damage was, I think we must admit that it must have all been repaired some time before control over the speech centre was regained, both on account of the length of time elapsing before that recovery and also because the recovery was complete and sudden, not gradual. In other words, although the nerve paths leading to the speech centre may have been destroyed by hæmorrhage or softening, the gaps thus formed must have been repaired, and all the bridges connecting the speech centre with the rest of the brain must, so to speak, have been rebuilt some time prior to the recovery of his speech. He did not at first, however, find out the way to direct nervous impulses along the newly repaired means of communication. Let us consider the reason of this failure. It was, I believe, because as a matter of habit every impulse sent towards the speech centre had been deflected to one side or the other in consequence of the block at first existing, and these paths became so well worn that every impulse turned aside into them instead of going in the direction intended. We know, as a matter of experience, that the more any particular nerve path is used, the more easily does the passage of nervous impulses along it take place—a truth of which we are painfully conscious when trying to rectify a bad habit of thought or action. Thus the more this man tried to speak, by so much the more did he diminish his chance of speaking, in that he made more patent the channels which conducted the nervous impulses away from the desired destination. Finally, after a few months he gave up all hope of speaking again, and, as he says, he never tried to speak. The result of this was that all the nerve paths in the neighbourhood of the speech centre fell into an *equal* state of disuse. Then, in the sort of somnambulistic state during which he unconsciously travelled from Birmingham to Wolverhampton or Bilston, his brain being active and his mind at rest, some involuntary nervous impulse went straight along the old and long-disused path, over the new but as yet unused bridges, and into the speech centre; and when he recovered consciousness he felt that that area of his brain was once more under his control, and he promptly proved by experiment that this was so. That this was really a recovery of the old centre and not the education of a new one is of course proved by the fact that speech suddenly came back perfect just as it was before his attack.

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* Diseases of the Nervous System, 1888, page 93.

I think we have an important lesson brought home by this case, namely, that having recognised the possibility of a paralysis resulting from what may be termed loss of memory of the way to use a part, we must realise that when once any particular power is lost and not recovered on the disappearance of the disturbance that caused the loss, attempts at its recovery on the part of the patient are apt only to do harm, unless they can be properly directed by the patient or his medical attendant; and this for the above-mentioned reason, that the more he tries, the more patent, as a rule, does he make the morbid channel that leads him away from the end he has in view.

Is not the truth of this fact shewn by almost daily experience? Is it not acknowledged that if we cannot remember some fact which we want, after a certain amount of hunting for it in our brains, our efforts do no good, for our thoughts keep running in unproductive lines? The only thing to be done under such circumstances is to direct our attention to something else, thus letting that part of our brain come to a state of rest; and then after a time we suddenly find the way open to the corner where the wished-for memory lies stored. Therefore in cases like the one under consideration, where it is impossible to guide the patient as to the direction in which to make an effort for the recovery of the lost power, it seems to me that we ought to tell them to give up trying, and that they will be more likely to regain the power if they do not try than if they do.

Another important point to bear in mind in the treatment of such conditions is the possibility of overcoming the obstacle by some means apart from the patient's voluntary effort, and I believe that for this class of case we may have in hypnotism a means of effecting a cure. I believe that if this man had been hypnotised and told to speak he would have spoken long before he did. I know of a case something similar to this that was cured in this way. It was the case of a man with paraplegia from injury to the spinal cord, in whom there were signs that the mischief had all been repaired, but who was nevertheless unable to use his legs. He was hypnotised and told to walk, and he got out of bed and walked, and after this was repeated on several consecutive days he began to regain voluntary power over his legs, and was soon able to get about fairly well. I wish I had thought of treating this patient in the same way.

Thus I think we ought to remember that this loss of remembrance of the way to bring certain motor centres into action may be in some cases the sole cause of paralysis, and we ought to be prepared (1) to re-educate the patient to the use of these parts; or (2), as Dr. Bristowe did with his case of aphemia, to educate a new series of cells to take on the function that has been lost; or (3), if other means fail, we ought to take some other steps, such as those just mentioned, for re-opening communication with the disused tract of the brain.

And now as to the diagnosis. Was it simply a case of hysteria? I think we can safely answer this question in the negative. But, on the other hand, there was in this case a condition of the nervous system that is very frequently seen in hysteria, if it be not characteristic of that disease, viz, a condition in which there is an undue preponderance of a recent condition of the nerve cells or fibres or both over all previous conditions—a condition that may be more simply described as an abnormal shortness of memory on the part of the nervous system. Thus, if a nervous tract have been recently stimulated, it is unduly easy to stimulate subsequently; or if it have remained for some time unstimulated, it is unduly difficult of stimulation.

To give a common instance, which I have recently had under observation, a woman who is hysterical gets an attack of aphonia resulting from acute laryngitis, and it persists for weeks or months after the inflammation has gone and the larynx is normal, as proved by the cough having regained its normal tone; whereas if the woman had not been hysterical, the memory of the way to phonate would not have been lost, but the power would have returned coincidently with the subsidence of the inflammation. In this woman speech returned suddenly in the first instance, but in a subsequent attack she had to be re-educated by observing the act of phonation in coughing.

Again, in a person whose nervous system is normal an attack of aphasia is often of very transient duration, but where the nervous system is abnormal, as in the case of F. C., it may be very persistent, although we must believe the initial lesion to have been not very severe. However, although this man's nervous system was not in a state of normal equilibrium, I do not know that we can say for certain that he was hysterical, for it is possible that this special condition may be due to other diseases as well as to hysteria; and as he undoubtedly has an epileptic taint, as shewn by his father being epileptic and by his own attacks, it seems scarcely necessary to call in the aid of hysteria for the explanation of the case.

With regard to the initial lesion I do not see that it is possible to come to a definite conclusion. Was it what is called functional, and due to a sudden local anæmia from spasm of the vessels? or some other passing cause, and similar in character to the transient attacks of aphasia and paralysis which we so often see, lasting a few minutes or hours, and leaving no sign of their occurrence afterwards, but which in this case, owing to the peculiar state of the nervous system, did not so pass off? This is I think negatived by the fact that he continued losing what little power of speech he had left during five or six days, and also his difficulty in deglutition did not occur at first. In other words, the maximum local effect of the lesion was only established slowly. We must therefore consider it to have been some more serious vascular disturbance, due either to plugging of a small vessel by thrombosis (possibly syphilitic), or to the rupture of a small vessel followed by a slight hæmorrhage.

The absence of evident cardiac disease makes embolism unlikely although not impossible, especially if his liability to attacks of rheumatism be taken into account.

Thus all we can certainly say is that his attack was due to some local vascular disturbance that took two or three minutes or more to produce its maximum *general* effect on the brain and cause unconsciousness, and then as rapidly passed off leaving a *local* disturbance that took five or six days to reach its maximum local effect, and in its later stages was accompanied by some rise of temperature. As regards the disappearance of the local disturbance we can say but little, except that the slight difficulty in reading passed off in the course of a few weeks.

REPORTS OF CASES.

TRACHEOTOMY AND INTUBATION,

(WITH NOTES OF TWELVE CASES TREATED AT THE GENERAL HOSPITAL, BIRMINGHAM, BETWEEN MAY, 1888 AND MAY, 1889.)

BY E. N. NASON, B.A., M.B. CANTAB.

1. Katie B., age 4½, was admitted on May 18th, under Dr. Rickards, for laryngeal dyspnœa. Her illness began on the evening of May 15th, but there was no dyspnœa until the day of admission. There was no membrane to be seen on the fauces, but the urine contained a cloud of albumen.

As the dyspnœa became progressively worse despite the use of steam tent, emetics and the application of hot sponges to the throat, tracheotomy was done on the morning of May 19th, the operation giving immediate relief. The same evening one large and several small pieces of membrane were coughed up through the tube.

May 22nd. Tube removed and not needed again.

May 24th. As some little fluid came through the tracheal wound when the child swallowed, she was fed by stomach-tube and enemata till May 31st. After this date recovery was uninterrupted, and child was discharged on June 15th.

2. *Samuel C., age 2, was admitted on Sept. 30th, under Sir Walter Foster, for laryngeal dyspnœa. He had been ailing for a week, but had no dyspnœa till morning of admission. No membrane to be seen. As hot bath, steam tent and emetics did not relieve the breathing, tracheotomy was done late the same evening.

Oct. 3rd. Tube taken out for one hour.

Oct. 6th. A few shreds of membrane were coughed up.

Oct. 16–26th. Fed by stomach tube.

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* Child died the following January of empyema and general tuberculosis.

Oct. 21st. Tracheal tube left out finally. Discharged on Nov. 30th.

3. William F., age 2, was admitted under Dr. Wade on Nov. 22nd, with laryngeal dyspnœa of three days' duration. He was in an extremely asthenic condition with diphtheritic patches on fauces. Tracheotomy was done at once as the child was "in extremis." He improved a little for the first few hours, but died the following day.

4. Frederick J., age 5, was admitted under Sir Walter Foster on Nov. 25th with croupy cough, bronchitis and some laryngeal dyspnœa. There was no membrane to be seen on fauces, but the urine contained a cloud of albumen. As dyspnœa had steadily increased despite the usual treatment, tracheotomy was done on Nov. 27th; child relieved at once.

Nov. 28th. Small piece of membrane coughed up.

Dec. 1st. Tube removed and not replaced. Recovery uninterrupted. Discharged Dec. 31st.

5. Annie B., age 5, was admitted under Dr. Rickards on Dec. 4th, with laryngeal dyspnœa. An elder sister had died the week before of diphtheria. Child had been ill for eight days, and dyspnœa had been steadily increasing for three days before admission. There were patches on the tonsils and a cloud of albumen in the urine. Tracheotomy was done almost immediately as death from asphyxia was imminent. Large masses of false membrane were removed from the trachea with laryngeal forceps. Child sank from exhaustion on the evening of Dec. 5th.

6. David C., age 3, was admitted under Dr. Saundby on Jan. 10th, for laryngeal dyspnœa, which had begun some few hours before. Four other children of the same family had died of "croup." There was no membrane to be seen, but the urine contained a cloud of albumen. Breathing got steadily worse despite the usual treatment, and intubation was done at 11.30 p.m. on Jan. 12th. Child was at once relieved and slept quietly through the night.

Jan. 13th. Child still breathing quietly; takes food well with very little coughing. Had a severe attack of coughing at

4 p.m., becoming very cyanosed, and ultimately bringing up a quantity of thick mucus but no membrane.

Jan. 14th. Tube removed at 10 a.m., but had to be reintroduced at 2 p.m., as breathing had steadily got worse since the morning. Breathing was again at once relieved, child vomited several times, and ultimately brought up a round worm.

Jan. 16th. Tube coughed out at 8 p.m., and remained out till 6 p.m. on Jan. 17th, when it had to be replaced.

Jan. 19th. Tube coughed out again at 6-30 a.m.; replaced at 7-30. Coughed out at 10-30; replaced at 11-45. Coughed out at 3-15 p.m., and replaced at 5-20. Coughed out at 10 p.m., and replaced at 10-45. The breathing on each occasion at once became difficult directly the tube was coughed out.

Jan. 21st. The tube, which had remained in place since the 19th, was again coughed out at 12-45 p.m., replaced at 2, and coughed out at 2-45. On attempting to replace the tube at 3-45 in great haste, as the child was nearly asphyxiated, the thread attached to the tube broke, and the tube fell into the œsophagus and was swallowed. Breathing at once stopped, and tracheotomy had to be done in the greatest haste and without assistance. Artificial respiration, after some time, brought the child round, and he breathed quietly through the tracheotomy tube, soon regaining his colour. The temperature, which up till now had ranged between 99° and 102°, fell at once to normal, and remained so.

Jan. 25th. Tracheotomy tube left out, but had to be replaced almost immediately; and though repeated attempts have since been made to dispense with it, up to the present they have all been unsuccessful. The child made an uninterrupted recovery and is now quite well, except that he still wears a tracheotomy tube. The larynx is apparently almost completely stenosed.

7. Albert Y., age 10 months, was admitted under Mr. Bartleet on Feb. 18th suffering from congenital syphilis with laryngitis, an increasing laryngeal obstruction, and great emaciation.

Feb. 21st. As breathing was becoming more and more difficult, intubation was done. This improved the breathing to some little extent, but the tube was repeatedly coughed out. As the intubation tube could not be kept in place, tracheotomy was done the same evening. Child lingered on till the middle of March, when it died in an extremely marasmic condition. *Post mortem* revealed syphilitic changes in liver and spleen.

8. William F., age 2, was admitted under Dr. Rickards on Feb. 23rd with laryngeal dyspnœa, which dated from the previous morning. There was deep congestion of the fauces, but no membrane to be seen. As breathing became worse under the usual treatment, tracheotomy was done the same evening. Child relieved at once.

Feb. 26th. Tube removed but had to be replaced, and could not finally be dispensed with till March 1st, after which recovery was uninterrupted. Discharged March 19th.

9. William T., age 3, was admitted under Dr. Wade on April 5th with laryngeal dyspnœa of two days' standing. Illness had begun with a "lump in the throat" ten days earlier. Tracheotomy was done within a few hours of admission, as dyspnœa was becoming very urgent. No membrane to be seen, but urine contained a dense cloud of albumen.

April 9th. Tube removed. Small piece of membrane brought up.

April 10th. A considerable quantity of the milk taken came through the tracheal wound, causing much coughing. Even milk thickened with arrowroot came through tracheal wound. Child was then fed by stomach tube, but could only retain very small quantities at a time.

April 25th. Milk ceased to come through wound, which after this rapidly healed. Discharged on May 6th.

10. Bertha T., age 2½, was admitted under Dr. Rickards on April 20th with croupy cough, and laryngeal dyspnœa of two days' duration. As the usual treatment by steam and emetics only gave very temporary relief, tracheotomy was done on April 21st. There was no membrane to be seen, and urine only contained a haze of albumen.

April 25th Tube removed and not replaced, recovery uninterrupted. Discharged May 5th.

11. William M., age 2, was admitted under Dr. Wade on April 26th with general bronchitis, and laryngeal dyspnœa of twelve hours' duration. As the usual treatment gave no relief, intubation was done at 11.30 p.m. Breathing relieved, but not completely; child very restless.

April 27th. Tube removed, laryngeal obstruction less, but bronchitis increasing. Child died at 12 midnight.

Post mortem showed extensive broncho-pneumonia.

12. Herman F., age 4½, was admitted under Dr. Wade on April 26th with laryngeal dyspnœa, which had been gradually increasing for five days. On admission there was great cyanosis and difficulty of breathing. There were patches on the fauces, and a cloud of albumen in the urine. The usual treatment gave little or no relief, and at 6 p.m. intubation was done. For a few seconds after the tube was introduced breathing became so difficult that tracheotomy was on the point of being done. The breathing, however, suddenly became easier, cyanosis and retraction of ribs disappeared, and the child fell into a quiet sleep. At 11.30 the intubation tube was removed accidentally, the thread having been left long, dyspnœa at once returned. On replacing the intubation tube a few minutes later, the child completely stopped breathing, and tracheotomy (for which everything was ready) had to be done with the utmost despatch. Artificial respiration brought the child round after some little time, and a large piece of membrane was immediately afterwards discharged through the tracheal opening. After this the child breathed very quietly. A second piece of membrane obstructed the tube later on the same night, rendering its immediate removal by the nurse and the introduction of the tracheal dilators necessary. During the next few days several more pieces of membrane were discharged through the tube, the surface of the wound was covered with a grey patch, and around it a diffuse cellulitis occurred.

April 30th. Tube was removed, but could not be dispensed with till May 9th.

May 8th. As fluids returned through tracheal wound, child was fed by stomach-tube till May 16th.

Discharged on May 28th.

Of the foregoing twelve cases it will be seen that eight recovered and four died. Of these four, two were cases of diphtheria with extreme depression, where death occurred on the second day from the severity of the disease. In both these cases the operation of tracheotomy was done rather to prevent immediate suffocation than with any but the remotest hope of an ultimate recovery. Of the other two, one case was that of a syphilitic infant of 10 months, in an extremely marasmic condition. Here life was prolonged for about a month, but the child continued to waste and ultimately died, though with no further respiratory complication. The last case was one of general broncho-pneumonia, complicated by laryngitis with obstruction. In this case intubation alone was done. In three of the four cases in which intubation was done, tracheotomy was subsequently necessary, and in two of these had to be completed with the utmost haste.

With regard to the relative merits of the two operations, the above-recorded cases shew that intubation, though a "bloodless" operation, is accompanied by many risks from which tracheotomy is free. Granting that it can be done more rapidly and with less shock, do not the disadvantages more than outweigh these advantages? In cases where there is membrane in the larynx—and it is impossible in the majority of cases to say beforehand that there is not—the risk of crowding down this membrane with the intubation tube and completely blocking the trachea is such a serious one that, when one has tracheotomy as an alternative, intubation seems scarcely justifiable. This particular risk was well exemplified in case 12, where the child would inevitably have died had one been unprepared for this accident, or had anything prevented the immediate opening of the trachea. In speaking of this danger Dr. Wexham, in an article in the *Brit. Med. Jour.* for Sept. 29th, 1888, says: "In introducing the tube, if false membrane be crowded down ahead of it, which cannot be expelled by coughing, then the tube should be removed at once. If it cannot then be expelled, the trachea forceps . . . should be introduced and the membrane removed. If this is not successfully accomplished and the patient seems about to suffocate, tracheotomy should at once be performed." This reads as though there were plenty of time for all these various manœuvres, when in reality there is barely time for tracheotomy, the only one which is *certain* to give relief.

One point in which intubation has a distinct advantage over tracheotomy is the warming and moistening of the inspired air in passing through the upper respiratory passages. Here again, however, we meet with certain objections from which tracheotomy is free. In the first place the intubation tube cannot be cleaned "in situ," or removed at a moment's notice in case it should become blocked, nor can it be removed at all by the nurse. Again, in some cases it is repeatedly coughed out of the larynx rendering frequent reintroductions necessary. In case 5, where this was particularly the case, a permanent stenosis of the larynx occurred, which may have been due to the irritation of the intubation tube. Or when coughed up the tube may be swallowed, as occurred in case 5.

And lastly, intubation affords no opportunity for any local application to the trachea, such as can readily be used where the trachea has been opened. In comparing the results of a large number of published cases of tracheotomy and intubation, one finds that the percentage of recoveries is about equal, but it must not be forgotten that intubation is more likely to be done in the less severe cases, which fact would of course give the operation, as far as statistics go, an unfair advantage over tracheotomy, which is so frequently done in almost hopeless cases. As to the operation of intubation itself, there is no great difficulty in its performance, but it certainly should be practised on the dead subject first. The chief points seem to be to keep the tube strictly in the middle line and, as soon as the end of it reaches the glottis to raise the handle of the introducer vertically so as to hook the end of the tube round, making it point a little forwards as well as downwards as it passes into the glottis. No force should be used, and last, but most important of all, the operator should have everything ready for tracheotomy, and should himself be prepared to do it at a moment's notice.

NOTES ON SURGICAL CASES.

BY WILLIAM F. HASLAM, F.R.C.S.
ASSISTANT SURGEON TO THE GENERAL HOSPITAL, BIRMINGHAM.

Dermoid Tumour of the Nose.—These interesting congenital tumours are met with in many situations, but so far as I know the tip of the nose is an extremely rare position in which to find one.

A child aged 3 years, was brought into the out-patient room on August 2nd, 1889. At the end of the nose there was a very distinct prominence caused by a fluctuating swelling. This had been noticed by the mother at birth, and had recently been increasing in size. There was no pain or inflammation about it, and it was only on account of the deformity that the child was brought to the Hospital. An incision was made, and a quantity of white sebaceous matter was squeezed out from the cavity, which occupied the tip of the nose. It was impossible to dissect the sac away from the fibro-fatty tissue in which it was situated, so its interior was freely scraped and a small plug introduced. In the course of a few days it had healed, and there was hardly any scar to be seen. No hairs could be seen on the sac wall, nor could any be found on examining the fluid with the microscope.

Congenital absence of the fibula and the outer side of the foot.—B. H , a healthy boy, aged 5, was brought to the Hospital on August 7th, 1889.

There was complete absence of the fibula on the right side, with the two outer metatarsal bones and their corresponding toes; the second and third toes were webbed. There was no difference in the length of the thighs, but the right was less developed than the left.

The right tibia measured 5 inches, the left 7½ inches. In the right tibia there was an anterior curve just below the middle, and there was some genu valgum on that side. There was most complete talipes equinus, the boy walking on the ends of the toes, or at times even on the dorsum of the foot. Flexion of the foot was impossible, but owing to the absence of the fibula there was some abduction at the ankle joint. This was completely under his control, the leg and foot being in one line when he walked about.

Measurements from the anterior superior spines to the surface of each foot in contact with the ground, were as follows:—From right ant. sup. spine to the end of great toe, 18 inches. From left ant. sup. spine to sole of foot, 20 inches.

The boy can run about very well, compensating for the want of length on the right side by some flexion of the left leg, and dropping of the right side of the pelvis. There was no other malformation. The mother attributed the deformity to her having been frightened by a horse during quite the early stage of her pregnancy.

Malignant Nasal Polypus Removed by Splitting the Nose.—Jane E., aged 68, was admitted into the General Hospital under my care on August 14th, 1889. About four months ago she began to suffer from repeated attacks of epistaxis from the right nostril. These attacks recurred on an average four or five times a week; and though they did not last long at a time, the bleeding was profuse, the blood being, according to the patient's statement, dark in colour. After a month or so she noticed some discharge of a greenish yellow colour, and of a very offensive odour. In another month's time there was some swelling of the right side of the nose, and this has been increasing ever since. There was a gradually increasing obstruction in the nostril; and at the same time that the swelling occurred, tears began to run over that side of the face.

On admission, there was slight swelling of the right cheek close to the side of the nose, but no distension of the antrum could be made out. The right nostril was swollen, and its cavity blocked by a dark red fleshy mass. There was an offensive discharge from the nostril, and epiphora on that side. Neither the orbit, mouth, or pharynx were encroached upon, and no enlarged glands were to be found.

Aug. 16th. The patient being under the influence of an anæsthetic, the nose was split by passing a sharp-pointed bistoury into the right nostril, perforating the soft tissues close to the junction of the nasal bone, cartilage, and septum, and then cutting outwards to the tip. By this means the side of the nose could be opened out, and a good view was obtained of its cavity. The growth, which was very soft, was removed in pieces until its attachment could be seen. This was to the mucous membrane over the middle turbinated bone, and was removed. Bleeding was easily controlled by sponge pressure. The cavity was dusted with iodoform, and the nose carefully sewn up with carbolised silk. The after-treatment consisted in syringing out the nose and blowing in iodoform. She had no pain or inconvenience after the operation, and left the Hospital on August 27th.

Remarks.—For this method of opening a nose I am indebted to Mr. Furneaux Jordan, who demonstrated it to me a few years ago on the cadaver, but until this case was presented, I have never had either an opportunity of seeing it done, or of practising it myself. Here it answered the purpose admirably, and enabled me not only to see completely into the nostril, but gave plenty of room for manipulation. There can be only one possible objection to it, and that is, the risk of leaving a scar in so prominent a position, but with careful sewing up, the vascular tissues of the nose will unite without leaving any appreciable disfigurement. The complete removal of the non-malignant nasal polypus is often difficult to effect, and frequent recurrences are common, but by such an operation their attachments might be seen and removed in a way that should be effectual.

Malignant disease of uterus; complete obstruction of the bowels; colotomy.—It is not often that uterine carcinoma is of sufficient extent to so compress the rectum as to cause complete obstruction, but the following case illustrates such a condition.

M. B., aged 60, was admitted into the General Hospital under my care, on August 21st, 1889. Nine months ago she noticed a discharge from the vagina, and shortly after this a "lump" low down in her abdomen; there was also great pain. Her bowels began to get very costive, and for the last month or six weeks the pain had been almost continual and the constipation very obstinate; indeed for three weeks before admission no motion had been passed, while vomiting and abdominal distension had come on.

On admission, the abdomen was enormously distended, the coils of distended bowels being plainly visible. There was vomiting and great depression. The rectum was found to be completely occluded by a large mass of malignant growth in the uterus. It was impossible to pass the finger beyond the obstruction. By vaginal examination the growth was felt arising in the uterus, projecting considerably into this canal, and blocking up the pelvis. A left lumbar colotomy was performed a few hours after her admission, and the bowel opened at once. A large quantity of fæcal matter was discharged, and the flow continued until the intestinal canal was emptied of its accumulation. The relief afforded was considerable; though of course there is the pain and exhaustion incident to the original disease, which must in due course terminate her existence.

A CASE OF EXTREME STRICTURE OF THE ÆSOPHAGUS OF LONG DURATION.

BY ALFRED HARVEY, M.B.

On Dec. 1st, 1886, I was consulted by T. P., aged 46, for some dyspeptic symptoms, and he incidentally informed me that he had a stricture of the œsophagus of 40 years' duration, which had proved impassable to instruments, and practically prevented his swallowing anything but liquid foods.

On further inquiry he gave the following history:—At the age of 5 years he swallowed some strong sulphuric acid. For the resulting injury he was under the care of Dr. Wilcox of Bath Row, for upwards of a year. Ever since then the throat had been almost closed. He had lived chiefly on milk, beef tea, eggs and corn flour; could not swallow sago. When a boy he remembered getting something in his throat "not so large as a grain of pearl barley," which necessitated treatment at the General Hospital. He had been a patient at various institutions. About ten years before he had been an in-patient at the General Hospital where many attempts were made to pass bougies, but without success, and where a consultation was held to consider the possibility of other operative interference.

When I first saw him he was a pallid, gaunt man of 5 ft. 9½ ins. in height, and weighing 8 st. 12 lbs. He was then living upon fluid food which he always strained through a sieve, not daring, as he told me, to drink even a glass of beer without that precaution; he could eat potatoes and bread and butter, but did not care to do so as the process of swallowing was extremely tedious; could not eat meat. On examination a stricture was found at the level of the cricoid cartilage so tight that it would not admit a No. 2 urethral bougie.

On Dec. 3rd, after a sitting of 30 minutes, a No. 1 bougie was passed, and was kept in about an hour. Three days afterwards a No. 2 passed pretty easily, and the stricture was slowly dilated by the passage of a bougie every three or four days, till on March 30th, 1887, a No. 16 was passed. The patient was then 9 st. 10 lbs. in weight; could eat ordinary diet, and enjoyed his meals, keeping almost free from dyspepsia. He looked much better and felt for the first time in his life equal to his work. As the œsophagus then answered every useful purpose, I did not dilate farther, but gave him a No. 15, which he learned to pass easily. The bougies used were the ordinary black gum elastic flexible ones of French make.

I have recently (June, 1889) seen T. P. again. His health has remained good during the past two years, and he has gained a little more in weight. After a few months he neglected the use of the bougie, and some contraction of the œsophagus has already taken place, as it only admits with difficulty a No. 11. He will probably continue to neglect it until progressing contraction causes a perceptible difficulty in the power of swallowing.

The points of interest in this case are (1) the recovery of the patient as a child after such extensive injury, and the prolongation of his life with so small an œsophagus; and (2) the completely anæsthetic condition of the cicatricial tissue about the throat, which permitted the necessary manipulations without pain and almost without discomfort to the patient.

CASES OF DIABETES MELLITUS, ILLUSTRATING VARIOUS PHASES OF ITS CLINICAL HISTORY.

BY ROBERT SAUNDBY, M.D. ED., F.R.C.P. LOND.
PHYSICIAN TO THE GENERAL HOSPITAL, BIRMINGHAM.

Case 1.—*Diabetes Mellitus—polyuria—thirst—emaciation—rheumatic antecedents—unfavourable effect of skim milk—death by Coma—use of Strychnine.*

Arthur P., 43, nailer, was admitted into the General Hospital on October 20th, 1886, complaining of thirst, weakness, and of passing a large quantity of water—he thought as much as six or seven quarts a day.

History.—His illness began six months ago with pains in his legs, which his doctor called rheumatism. A month later it was discovered that he had diabetes, but no change was made in his diet. He continued to get worse; and having been to Rhyl without benefit, he came to the Hospital. His previous health had been good, except for rheumatic pains in his hands. His father and mother were alive, as well as all his brothers and sisters, and, except that his mother suffered from rheumatism, no pathological incident could be discovered.

Condition on Admission.—He was a small, emaciated man; height, 5 ft. 3 in.; weight, 8 st. ½ lb. He used to weigh 10 st. T. 98°, P. 72, R. 14. Teeth irregular and decayed, tongue red and beefy, flatulent eructations after food, bowels regular, liver and spleen normal. Complains of giddiness, and is short of breath on exertion. Heart's sounds normal; no cough; some impaired resonance; harsh breathing; prolonged expiration, and slight crepitation at the right apex. Urine 264 oz., 1035, acid, clear, urea 0·7 per cent., very faint cloud of albumen, sugar 6·9 per cent.

Progress of Case.—On Oct. 22nd he was put on six pints of skim milk daily.

Oct. 23rd. He grumbled about his diet.

Oct. 24th. Complained of feeling low; bowels open; tongue still raw and beefy. Urine 216 oz., sp. gr. 1033, acid, pale straw colour, white flocculent deposit, urea 0·9 per cent., a cloud of albumen, sugar 6·25 per cent., a trace of blood, and a few red and white blood corpuscles seen with the microscope. At 7-30 p.m. he complained again of feeling low, and of a pain in his bowels which he attributed to the milk.

Oct. 25th. In the morning he made the same complaint, and said he was cold. His pulse was feeble, and his tongue dry, brown, and cracked. At 10 a.m. he was drowsy, and his respiration was rather deep. At 11-30 a.m. P. 160, R. 20; there was pain in the stomach and bowels; no urine passed since 8 a.m. He was ordered an enema to empty the bowels, a bottle of Vichy water to be taken with lemon juice in the course of the day, an alkaline injection (sodii bicarb. ʒ i., ad. aq. Oss.) to be given by the bowel as soon as the rectum had been cleared out, and the following mixture every hour:—

℞.	Etheris sulph.	♏ xx.
	Pot. bicarb.	gr. x.
	Aquam ad.	℥ i., M.

In the course of the day the rectum was well cleared out and scybalæ removed, but he got worse, and at 8.45 p.m. I saw him again. T. 99, R. 24. He lay apparently asleep, but could not be roused. His breathing was very deep, but there was no special odour about him. His urine gave a well-marked acetone reaction. He was ordered liq. strychninæ ♏ v. *sub cute* every fifteen minutes until muscular twitchings were produced. After three injections he spoke and drank some Vichy water. At 9-25 he had another alkaline enema, containing one ounce of bicarbonate of soda. After this the strychnine injections were given irregularly at 10-10, 10-40, 11-10, 11-55, 1-50 a.m., and then not till 9 a.m.

26th. At 9-30 a.m. I saw him again. No physiological symptoms had been produced by the strychnine, so ten minims were ordered to be injected every half-hour. P. 128, R. 26, T. 99. He was decidedly better, answered when spoken to, took beef tea very well. The knee jerks were absent. The strychnine was again neglected; after I left it was given only every hour. His temperature had begun to rise. At 11-30 it was 102°; at 12-30, 103°; by 2 p.m. he was comatose again. Three ounces of urine were drawn off from his bladder; it was acid, sp. gr. 1023, and free from albumen and sugar. At 5 p.m. his temperature was 105°, and at 6 p.m. reached 106°. At 6-30 he was plainly dying; the face was a little drawn to the left, and the right pupil was larger than the left. He died at 6-40 p.m. without other change taking place.

Case 2.—*Diabetes Mellitus.—Death from Coma with high temperature.*

Sarah L., 19, tailoress, was admitted on August 22nd, 1885, complaining of thirst and of passing a great quantity of water. The notes of the history of the case are missing.

Condition on Admission.—She was poorly nourished, but her physical signs were normal. The urine was 136 oz., sp. gr. 1039, acid, clear, a cloud of albumen; sugar 7·6 per cent.; urea 0·65 per cent.; acetone reaction and ferric chloride reaction both well marked. T. 98·8°, P. 108, R. 24. She was placed on house diet and ordered a simple enema.

Progress of Case.—On the evening of the 23rd she had an enema, and felt faint after it. She vomited just before midnight, and again at 4 a.m. At 5 o'clock she cried, and complained of great pain in the small of her back. The matter vomited gave a distinct acetone reaction with the nitroprusside test. Hot fomentations were applied, and at 8 a.m. she had a grain of extract of opium, and a second was given at 10 o'clock. At the visit at 10 a.m. she was still complaining of the pain; her respiration was panting, 32; pulse 132; temp. 98·5°; bowels had been moved freely; tongue red and dry. She had passed no water since 4 a.m., so at 11 a catheter was introduced and 10 oz. of urine drawn off, which was pale, clear, sp. gr. 1040, acid, a cloud of albumen, sugar 5·9 per cent., urea 0·9 per cent., acetone and ferric chloride reactions well marked. She was becoming unconscious, and by 11-30 was lying on her back, comatose, with contracted pupils. At 11-30 36 oz. of sulphate of soda solution were injected into the veins. She improved during the operation, the pulse became stronger, she was less drowsy, and she complained of the tightness of the bandage which was afterwards applied to her arm. At 2 p.m. she could not swallow, so three-quarters of a pint of water were administered by the bowel. At 3-30 the pulse was 165, very feeble, eyes turned up, respiration sighing. At 4 p.m. a second enema of about a pint of acidulated water was given. The pulse improved a little and respiration was quieter. At 5-30 16 oz. of urine were drawn off, which did not differ materially, except that it was sp. gr. 1031 and contained only 4 per cent. of sugar and 0·3 per cent. of urea. An enema of acidulated water was given every hour; but at 7-30 p.m. the noisy, deep breathing began again, and the enemata were discontinued as they were not retained. At 7 p.m. the temp. was 103°, and at 9 p.m. it had risen to 103·5°. Resp. 22, pulse 169. No other change took place. She died quietly, without any convulsion, at 11-10 p.m.

At the autopsy the body was covered with a thick layer of fat. There was no peculiar smell on opening the body. The blood appeared normal. All the internal organs were congested but healthy, though the brain presented some excess of cerebro-spinal fluid.

Case 3.—*Diabetes Mellitus—no polyuria—wasting—vertigo—albuminuria—apoplexy—death.*

Mr. W., 56, was seen in 1885 as a candidate for life assurance, when sugar was found in his urine. He was brought to me on November 29th, 1886, by my friend Mr. F. W. Underhill, of Moseley, complaining of giddiness and temporary attacks of loss of consciousness. His eyesight was good; there was no hemiopia, or double vision; his optic discs were normal. There was no obvious hypertrophy of the heart; the pulse was rather empty. The urine was not increased in amount; he did not rise at night to pass it; it was acid, 1021; contained a little sugar, and gave a haze of albumen on boiling.

I heard that he got much better on the treatment employed; but on Feb. 3rd, 1887, he had some friends to dinner and drank champagne. The following day he was seized with deafness, inability to speak, and progressive stupor. When seen late that night he could not speak, his pupils were contracted, his pulse hard, and he was restless; but there was no paralysis of the limbs. He was bled to 16 oz., and afterwards expressed himself by signs as feeling better. However, he died the following night from œdema of the lungs.

Case 4.—*Diabetes Mellitus—thirst—polyuria—albuminuria—acetonuria—phthisis—gangrene of lung—death.*

James B., 29, wire drawer, admitted June 27th, 1885, complaining of general weakness, wasting, and thirst.

History.—He had been ill 18 months, the first symptoms noticed being loss of weight. He used to weigh 13 st. His work was in an ill-ventilated shop, exposed to acid fumes; he drank about eight quarts of beer daily. His previous health had been very good. His father and mother and five of his brothers and sisters were dead, but he could furnish no precise information as to the causes of death. Three of his sisters were alive and well. An early symptom of his illness was thirst and passing a very large quantity of water; his appetite had latterly been good, but he had got weaker. For a month past he had had a feeling of tightness of the chest and a cough. His eyesight had been unaffected.

Condition on admission.—He was rather pale, hollow-cheeked and emaciated, weighed 9 stone. His cough was frequent, expectoration about 1½ oz. daily, nummular, greenish grey. Chest flat and hollow below the clavicles. On the right side there was dulness at the right apex with bronchial breathing, metallic crepitations and whispered pectoriloquy; on the right side resonance at apex impaired, breathing harsh with a few crepitations. Pulse 108; R. 24; T. 101°; urine 298 oz.; pale, clear; sp. gr. 1040; faintly acid; very faint cloud of albumen; 6·89 per cent. sugar; 0·7 per cent. urea; acetone reaction; ferric chloride reaction.

Progress of Case.—He was dieted and treated by extract of opium (gr. i) thrice daily, and Vichy water. His urine fell to about 100 oz., sp. gr. 1031, sugar 5·8 per cent., but on July 15th, at 9.40 p.m., he was found very weak, with quick pulse, laboured respiration and dilated pupils. He was conscious, and lay quite quietly, but occasionally the right side of his mouth was drawn down by a spasmodic twitching of the platysma myoides. He died at 11 p.m., but he was still conscious shortly before the end.

The *post-mortem* examination was made by Dr. Bull. The body was emaciated; there was no peculiar smell on opening the body and the blood did not contain excess of fat. The left lung was free, œdematous and congested. No fluid in the pleura. Right lung adherent at upper part, which was converted into a large abscess cavity containing thick sanious fluid which escaped on removing the lung. The inner surface of this cavity was rugged, dirty green, and a large piece of black gangrenous lung tissue hung by a shred from the posterior wall. Bands of tissue crossed the cavity. Its walls were very soft. It had no very offensive smell. The lower lobe was congested and œdematous, and contained numerous patches of lobular pneumonia, some breaking down. The bronchial glands were greatly enlarged. There was no other special change noted in any other organ, except that the liver and kidneys were very large.

Case 5.—*Diabetes Mellitus—polyuria—wasting—diarrhœa—very low temperature—discharged unrelieved—subsequent death.*

George H., 42, tailor, was admitted into hospital on Jan. 25th, 1887, complaining of tingling of his tongue and the roof of his mouth, with cramps in his legs. These symptoms came on about a week after Christmas.

History.—He had been losing weight since November. He had been passing more water than usual and had been thirsty. He had never been ill, except that when he was 19 he spat a little blood. Father died aged 35, of "brain fever;" mother died aged 70, of "diseased stomach." There was only one sister who died when she was 5, but he did not know the cause of death. He had never met with any accident or personal injury.

Condition on admission.—He was a poorly nourished man. P. 90, T. 100°, R. 17. Physical examination revealed nothing except some want of resonance and deficient breathing at the apices of both lungs, and his pulse was very weak. Urine, 116 oz., sp. gr. 1035, acid, straw-coloured, no deposit; 0·8 per cent. of urea, 5·8 per cent. of sugar, no albumen.

Progress of Case.—He was dieted and treated with alkalies and codliver oil; afterwards with morphia. He had several attacks of diarrhœa which interfered with his progress, and his temperature was irregular, sometimes rising to nearly 100°, but more often being subnormal, being several times as low in the morning as 95°. The low temperature was not the result of the diarrhœa, that is, it did not occur at the same time as the diarrhœa, or after those attacks. He never complained of feeling cold when it was at its lowest, and on being asked said he did not feel cold. He was ultimately discharged, and we heard died in a short time.

Case 6.—*Malignant Disease of Abdomen—glycosuria—no polyuria—slight thirst.*

William J., 45, admitted on July 12th, 1887, complaining of having had diarrhœa for a year, and of passing slime and blood from his bowel.

History.—He had lost five stone in weight, and had severe pain in the loins and hypogastrium, so great as to make him cry out. There had been no swelling, but nine months before he had jaundice, which lasted two or three months, and he used to vomit, but he had no pain then. Two years ago he was laid up with bronchitis, but could remember no other illness. Of late he had suffered from thirst, but did not think the quantity of his water excessive. Father dead, aged 50, cause unknown. Mother living in good health. One sister died in the Queen's Hospital from some wasting disease. He never heard of any case of cancer, gout, diabetes, fits, insanity, or consumption in his family.

Condition on admission.—He was a stoutly built, fairly nourished man, weighing 9 st. 8 lbs.; complexion sallow; conjunctivæ pearly; no œdema; skin pale; no pigmentation. P. 84, R. 18, T. 98°. Tongue furred posteriorly; no pain or discomfort after food; appetite not very good; bowels loose; open five times since admission; stools brown, fluid, containing a little blood. Liver dulness only 2½ inches in V.M.L.; some dulness in flank, which disappeared on change of position; spleen not enlarged. An oval swelling could be felt above Poupart's ligament on the left side; it was badly defined towards the middle line, and apparently passed down into the pelvis; it was tender, and the seat of pain. Heart's apex in the fifth left intercostal space; no murmur. Lungs resonant; breath sounds normal. Urine, 54 oz., sp. gr. 1035, acid, orange coloured, white deposit, consisting of leucocytes and squamous epithelium and granular matter; urea, 1·5 per cent.; a cloud of albumen; sugar, 5 per cent. He was dieted, and given chalk and opium mixture. On this treatment the sugar disappeared from his urine.

Progress of Case.—On the 27th he was put on ordinary diet, when sugar returned at once; his diarrhœa became worse, and his temperature began to be irregular.

On July 31st he was ordered to resume strict anti-diabetic diet.

Aug. 4th. He had a rigor, and his temperature at night was 101·2°. After this his evening temperature was generally over 101°, the sugar was always present, but the quantity of urine remained low.

Aug. 12th. Another tumour was felt to the left of the umbilicus. The liver had become enlarged, coming down nearly to the umbilicus, where its hard, firm edge could be felt.

Aug. 13th. We discovered that he was throwing away his urine, and he had evidently been evading his diet restrictions for some time.

Aug. 15th. His urine contained only 1 per cent. of sugar.

Aug. 20th. He was made an out-patient, but he only attended once.

Case 7.—*Diabetes Mellitus—bronchitis—œdema of trunk and lower limbs—recovery.*

Mary Ann M., aged 39, widow, metal button maker, was admitted into hospital on Jan. 8th, 1887, complaining of cough, pain in the back, and swelling of the legs and abdomen.

History.—She had been ill six weeks, the attack commencing with cough. A week ago she noticed her abdomen was swollen, and soon after the legs began to swell. Her breath got very short, and she felt very ill and weak, but she went about until the day of admission. She had been quite strong, except that ten years ago she had rheumatic fever, and for the last five or six years had suffered from a cough in the winter.

Condition on Admission.—There was much cyanosis of the face, hands, and arms, with great œdema of the lower extremities and trunk, but no ascites or hydrothorax. She could not lie down in bed, and her breath was very short and wheezy. P. 114, T. 98°, R. 30. Troublesome cough; no dulness over lungs; breath sounds very wheezy, with moist râles and sibilant rhonchi throughout; vocal resonance undiminished; heart's action regular, no murmur; pulse very small and weak. She had not menstruated for two months, and the flow had been very scanty for some months. Urine 48 oz., acid, 1043, a faint cloud of albumen, 8·3 per cent. of sugar, no blood, no casts, squamous and pear-shaped epithelium in deposit. She was put on strict anti-diabetic diet, with a little morphia for her cough. On this treatment she steadily improved, the sugar diminished rapidly, and the œdema disappeared. She left the hospital on Feb. 21st, free from dropsy and with no sugar in her urine, though it still shewed a faint trace of albumen.

Case 8.—*Diabetes Mellitus—early diarrhœa—intercurrent jaundice—persistence of glycosuria.*

William J., aged 45, blacksmith, attended as an out-patient on June 12th, 1887, complaining of pain in the loins and hypochondrium. His illness began twelve months before with diarrhœa, and three months later this was followed by jaundice. His urine was dark amber, acid, 1026, loaded with sugar, contained a faint haze of albumen and a little bile pigment. This case shews that jaundice from obstruction is not always followed by disappearance of sugar.

Case 9.—*Diabetes Mellitus—following erysipelas—loss of sexual desire—slight polyuria—slight thirst—no knee jerks—no wasting.*

Mr. Paul R., aged 48, consulted me in March, 1888, complaining of diabetes, of which he had been aware for three or four months after an attack of erysipelas supervening in his foot from a cut got by treading on broken glass. The polyuria and thirst were slight, and there was no wasting; his chief complaint was his loss of sexual desire, which seemed to depress him mentally, although he was unmarried. His knee jerks were absent. The urine measured from four to five pints daily, sp. gr. 1029, loaded with sugar.

Case 10.—*Diabetes Mellitus—due to a blow (?)—thirst—polyuria—wasting.*

John B., 54, wire drawer, admitted as an out-patient on March 12th, 1889, complaining of thirst and polyuria. He had been ill six months, and had been treated by brown bread *ad libitum* and codein (gr. i.) three times a day. Just before this illness began he bruised his hip at his work. There was no family history of diabetes, but one of his grandfathers had gout. The quantity of water varied from 4½ to 6 pints, sp. gr. 1032-35, loaded with sugar. He weighed 7 st. On probably the same diet, though he was told to eat bread very sparingly, Jambul perles (Christy) given in as large a dose as 4 three times a day produced no effect; and as much could be said of antipyrin. The quantity of water gradually diminished to three or four pints, and his weight was 6 st. 13 lbs on April 30th, 1889.

Case · 11. — *Diabetes Mellitus—polyuria—-thirst—wasting—threatening coma averted by spontaneous diarrhœa.*

William S., aged 21, engine cleaner, was admitted into hospital on March 27th, 1887, complaining of thirst, loss of flesh, and polyuria.

History.—His illness began six weeks before with thirst. He had a "low fever" three years ago, and formerly suffered from some kind of urticaria when working as a brass filer. He had always been temperate, and had a comfortable home. Father and mother and all his brothers and sisters alive and well; no history of diabetes in his family.

Condition on Admission.—He was rather deaf, especially in the left ear. He was wasted, and looked ill. Except some dulness and deficient breathing at the left apex posteriorly, the physical signs were normal. Urine 250 oz., sp. gr. 1037, acid, pale straw colour, no deposit, 0·8 per cent. of urea, 6·2 per cent. of sugar, a faint trace of albumen, a few squamous epithelial cells and crystals of oxalate of lime.

Progress of Case.—On March 31st he was dieted and treated with alkalies. His urine fell to half the quantity.

On April 3rd he complained of pains in head and abdomen, seemed drowsy, and had sighing breathing. His bowels, which had been acting once daily, were moved spontaneously four times, and the condition passed off.

He left at his own request on April 18th, and we heard in July that he had died.

Case 12.—*Diabetes Mellitus—polyuria—thirst—wasting—amblyopia.*

Joseph H., 52, admitted into hospital on May 23rd, 1887, complaining of weakness, wasting, giddiness, dimness of sight, and polyuria.

History.—He had been ill since January, 1886. His previous health was very good except for a fever which he had at Walsall twelve years ago. One of his sisters had died of diabetes.

Condition on Admission.—He was a thin man, with a dry, scaly skin; his teeth have been getting loose lately; tongue dry and furred; thirst great; appetite fairly good; no dyspepsia; bowels always confined; abdomen normal; liver and spleen not enlarged. Heart normal. Lungs normal except feeble breathing at right upper lobes. Ophthalmoscopic appearances normal. He had been a great smoker, using half an ounce of twist daily. For the last nine months he has been unable to read even with spectacles. Knee jerks absent. Urine 248 oz., sp. gr. 1039, acid, straw-coloured, slight mucous cloud, 0·7 per cent. of urea, 8 per cent. of sugar, a very faint haze of albumen, and a few squamous epithelial cells under the microscope. On diet and opium his urine fell to under 100 oz. daily, but he insisted on leaving on June 15th, and was lost sight of.

(To be continued.)

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

The Rationale of Brown-Séquard's Discovery — In the number of the *Medical Age* for August 26th a plausible explanation is given of the beneficial results attributed by Prof. Brown-Séquard to the hypodermic injection of testicular fluid. Having alluded to the ancient reputation enjoyed by the testicles of various animals as exciters of lust, and shewn by quotations from standard authors that semen contains a basic substance called spermine (C_2H_5N) which forms salts, of which the phosphate ($(C_2H_5N)2H_3PO_4 + 3H_2O$) is the most important (being identical with the substance known as Charcot-Neumann's crystals, seen in sputa, etc.), certain experiments were made with this substance. Hypodermic injections of a solution of hydrochlorate of spermine were markedly beneficial to an aged cat and an old negro. The article concludes by the following series of questions :—

1. Why do all animals that are continent display excessive energy?

2. Why does excessive indulgence or loss of the seminal fluid invariably weaken the animal?

3. Why is a larger quantity of spermine contained in the generative parts and nervous system than in other organs of the body?

4. Why is this substance found in the sputum or detritus of wasting structures?

5. Why do such marked tonic results follow its replacement?

6. Why do certain kinds of food material, now known to contain this principle, act as decided stimulants, and the evidence of which is usually first discerned in the condition of the generative apparatus?

Use of the Testicles as Reinvigorators.—Dr. McCormac, of Mansfield, Oregon, writes as follows to the *Medical News*:— "For over twenty years, to the personal knowledge of the writer, and probably for as many centuries, the Chinese have used the testicles of the sea lion for the purpose of stimulating the organs of generation in man and as a general nerve stimulant. A great many sea lions are killed in the immediate vicinity of this place, principally for their oil; but the bristles and penis, with testicles, are sold to agents of the Chinese. The first-named are used for ornaments, but the last two articles are used by them as medicine. At times as many as 150 are seen drying in the sun. When needed, a portion of a testicle is grated into a vessel, and an infusion is made which is administered *pro re nata*."

The Therapeutic Value of Oxygen Inhalation.—Dr. W. G. Thompson, in the *Practitioner*, August, 1889, thus states his conclusions in a paper on oxygen :—

1. Oxygen is of value in neurotic dyspnœa for the relief of the distressing subjective symptoms.

2. Where there is diminished surface for aëration of the

blood, oxygen improves the cyanosis, lowers the rate of breathing, and relieves the subjective dyspnœa.

3. Oxygen is of value where there is diminished inflation of the lungs from many causes.

4. It is especially beneficial in the dyspnœas of chronic Bright's disease and uræmia, pneumonia, capillary bronchitis, asthma, and catarrhal bronchitis, and sometimes in pulmonary congestion and the early stage of œdema.

5. Great care should be taken to secure chemically pure oxygen.

6. Oxygen may be given freely and abundantly in cases of emergency without fear of any injurious consequences. Ordinarily it is sufficient to give it pure by one nostril, while the other inhales atmospheric air; but it is often best to give it for a few moments by the mouth, or both nostrils, without admixture of air. Oxygen inhalation is of value (1) in general diseases of defective nutrition without regard to dyspnœa, (2) in dyspnœa due to altered condition of the nerves or of the circulation, altered composition of the blood (poisons, etc.), diminished surface for aëration, or feeble expansion of the lungs.

A Method of Treating Pruritus and Irritable Skin.—I have used, with good results, a cone composed of cocoa butter impregnated with 2 per cent. of cocaine. This is rubbed over the part affected. The warmth of the skin melts off a layer of the cocoa butter, which forms a soothing emollient shield over the irritable patch. The remedy has been put up in the form of cones, inclosed in boxwood cases with screw tops, something after the manner of menthol cones. These can be carried about by the patient, ready at any moment for self-application.—Norman Porritt, *Brit. Med. Jour.*

New Germicides.—Dr. E. Klein, F.R.S., has recently investigated some new compounds discovered by Mr. R. Weaver, C.E., F.C.S., of High Holborn. These give promise of great results in the future, as they are non-toxic, and therefore cannot fail to be of interest to the community.

"Creo," the name of the first, contains the active antiseptic principles of certain vegetable and mineral tars. Dr. Klein finds that "used as a 1 per cent. solution in water it kills cholera comma bacilli and typhoid fever bacillus within five minutes.

The next is "Periodate," the chief source of which is sea water, where its elementary parts exist in minute quantity. Dr. Klein says: "The 'Periodate' is a very powerful disinfectant; it kills *instantly* cholera comma bacilli and typhoid fever bacilli when used in one part to 5,000 of water." Therefore "Periodate" proves to be the most powerful of all known chemical agents in killing the micro-organisms of disease. Some further experiments indicate that "Periodate" is a true prophylactic against the virus of variola during the incipient period, either at once arresting development or, if too far advanced before administration, the disease runs a very mild course. If this happy result is confirmed by wider experience, the *vaccination* question, with its attendant agitation, may be considered to be approaching a solution.

SURGERY.

BY GILBERT BARLING, B.S., F.R.C.S.

Œsophagotomy for Foreign Body; Recovery. — McArdle (*Dublin Jour. Med. Sci.*, vol. 85).—The patient, a female aged 48, had for years lived on slop diet owing to the loss of her teeth. She then made an attempt to swallow a piece of beef, which became impacted in the œsophagus at its upper part. When admitted to hospital she was in a very feeble condition, and able to swallow only small quantities of liquid with much difficulty. There was a painful spot between the heads of the left sterno-mastoid, and on deep pressure, a rounded mass the size of a small egg could be felt, with which the left carotid artery was intimately related, and the artery itself was enlarged, firm, and cord-like. The diagnosis was—impacted foreign body perforating the œsophagus and inflaming the left carotid and its sheath. An incision four inches long was made along the inner edge of the left sterno-mastoid, extending one inch downwards over the sternum. The left carotid was found firmly fixed to the œsophagus and imbedded for two inches in fibrinous exudation. Hæmorrhage from the artery being feared, it was exposed by dividing the sterno-mastoid, hyoid, and thyroid, and a provisional ligature was placed round the vessel above and below the thickening. The œsophagus was now opened on a silver sound, and a piece of bone found fixed in the left wall of the tube. When this was removed, a second piece was discovered lying almost longitudinally. A large drainage tube was placed in the lower angle of the wound, which was plugged with iodoform gauze. Nourishment was administered by enemata for some days, and then gradually feeding by the mouth was resumed, the patient eventually making a good recovery, the only trouble experienced being the discharge of a large quantity of serum and mucus from the wound.

In the same volume Mr. Thomson records two cases of foreign body in the œsophagus. In one the patient tried to swallow a quarter of a pound of beef, and was dead when brought to the hospital. In the second the patient felt a piece of beef stick in the œsophagus, when he went to a hospital and had a tube introduced. He went home suffering much pain, and the neck and face became emphysematous. When admitted to the Richmond Hospital he was suffering from dyspnœa and dysphagia. An attempt to explore brought on such a spasm that it was necessary to desist, and later in the day tracheotomy was done with great relief. It was determined to explore the œsophagus subsequently, but the next morning the patient said the lump had passed down, and that he was able to swallow freely. He died that night. At the autopsy a piece of bone was found transfixing the œsophagus, making a rent through which fluids passed freely into the posterior mediastinum. A piece of beef two inches long hung from the bone, like a morbid preparation in a jar.

The American Journal of the Medical Sciences for July, 1889, contains an abstract of two cases reported by Hagenbach, in which stricture of the œsophagus was treated by retrograde dilatation when dilatation by the mouth had been unsuccessful in relieving.

The first patient, a man aged 52, the subject of fibroid phthisis, complained of difficulty in swallowing morsels of solid food in July, 1887. In October, only spoon food could be taken, and subsequently only small quantities of fluid. A bougie was arrested 13 inches from the dental arch, and although a bougie was eventually passed through the stricture, it was found that in spite of daily sounding there was a constant narrowing of the stricture. Gastrostomy was performed through an incision parallel to the lower margin of the ribs in the left epigastrium, and the stomach was opened on the fourth day. In a few days, the patient swallowed a shot attached to a thread; the thread was fished out through the gastric fistula and a strong silk ligature tied to it, the thread was then withdrawn, the silk ligature was thus carried through the stricture. To the ligature a No. 7 sound was tied and with little difficulty carried through the stricture, being replaced by larger instruments introduced from below in the same manner. Some time later a sound passed through the mouth, was guided by the sound from below through the stricture, and finally all dilatation was done from above. The gastric fistula was then closed by a plastic operation and the patient left hospital, passing a sound daily himself. The diagnosis of malignant stricture was confirmed on autopsy later.

The second patient, a child aged 8½ years, suffered from stricture of the œsophagus, due to swallowing sulphuric acid, which was for a time successfully treated by dilatation from the mouth. Subsequently this method failed, she became emaciated to a skeleton, the stricture was impermeable, and liquids were regurgitated in toto. The stomach was opened as in last case, and an attempt was made to swallow a shot on a thread. The shot caught in the stricture, but a loop of thread passed through and this was drawn out through the gastric fistula. By means of this thread a silk ligature was drawn from below upwards through the stricture, and as before, bougies were conducted by the ligature through the stricture. Three months later, a No. 7 soft Nilatson catheter was passed by the mouth, and threaded to this a thicker English sound was guided through the stricture. In a few weeks the gastric fistula was closed. The patient has since been passing daily a No. 15 sound, has no difficulty in swallowing, and has gained 18 lbs. in weight.

Sarcoma of the Tonsil; Excision.—Cheever (in *Boston Med. and Surg. Jour.*, May 23rd, 1889).—The patient, a male aged 57, for one year had to breathe through the mouth on account of enlargement of the left tonsil. In November, 1888, he caught cold, and the tonsil swelled considerably, discharging spontaneously a few days later, and at the same time some enlarged glands appeared in the left neck. Then followed increasing sense of fulness behind the tonsil, increasing dysphagia and difficulty in articulation, with loss of appetite and weight. In January, 1889, the left tonsil projected nearly to the uvula and was as large as a pullet's egg, and there were two glands on the left side each as large as a horse-chestnut.

Under ether, the patient, being in a sitting posture, one incision was made, concave upwards, marking the boundaries of the digastric triangle and a second over the lower jaw at right angles to the middle of the first. The mylo-hyoid muscle was now divided and the other tissues pushed to one side. The lower jaw was then sawn in two in front of the masseter muscle. The tumour was pressed out by a finger in the mouth and was found to be covered with a delicate capsule, and tumour and capsule were removed without great difficulty. There was no hæmorrhage, and the facial artery and the external jugular vein were the only vessels ligatured. A gland in front and one behind the sterno-mastoid were removed. The jaw was wired, the pharynx left unsutured and the external wound only partly sutured. Healing took place well, the jaw being firmly united in 30 days. Four months later a second operation was performed for a large glandular mass in the anterior carotid triangle. Both growths were round-cell sarcomas.

Carcinoma of the Tonsil; Excision.—(Fowler, *Brooklyn Med. Journal*, Sep., 1888).—The patient, a female aged 67, nine months previous to admission noticed an enlargement of the left tonsil which interfered with deglutition. A small portion of the tumour was removed for microscopic examination, and though no positive conclusion could be drawn from this, the patient was urged to have the growth removed. To this however she would not consent until some months later, when the tumour was about the size of an English walnut, lobulated and somewhat movable. There was also enlargement of the lymphatic glands beneath the posterior border of the sterno-mastoid. Ether having been administered and the patient's head well extended and turned to the right, one incision was made, commencing just below the lobe of the left ear and extending downwards and forwards along the anterior border of the sterno-mastoid to a little below the level of the hyoid bone; a second incision, commencing about half way between the angle of the inferior maxilla and the symphisis menti, was carried downwards and backwards to meet the lower angle of the first incision. The triangular flap thus marked out was dissected up, the external jugular vein, the facial and lingual arteries being ligatured. The stylo-hyoid muscle was then divided and it with the digastric and adjacent vessels and nerves were retracted downwards and backwards, the mylo-hyoid being pulled forwards. Two fingers passed into the mouth projected the tumour externally beneath the angle of the jaw, where it was secured with a stout ligature. By means of the thermo-cautery the tonsil was removed, the hyo-glossus, the superior constrictor and the mucous membrane being divided, and this part of the operation was accomplished practically without the loss of any blood. The lymphatic glands were next removed, with great difficulty, as they were adherent to the sheath of the common carotid. The wound was irrigated, the stylo-hyoid sutured, a drainage tube inserted behind the angle of the jaw, and the wound was sutured. The first dressing was removed at the end of a week, there being very little discharge, and the patient left the hospital at the end of about three weeks. Eight months afterwards there was recurrence in the parotid of the left side and secondary deposit in the right parotid, with symptoms pointing to a similar condition of the stomach, of which she ultimately died.

Tracheotomy for pressure of Abscess on the Trachea. Ulceration of the tube into the Innominate Artery.—(Maylard, *Annals of Surgery*, March, 1889).—The patient, a child aged 8, was admitted into the Western Infirmary, Glasgow, with an anterior curvature of the spine in the cervical region, associated with difficulty of swallowing and laboured breathing. Stridulous breathing and marked retraction of the thoracic walls led to tracheotomy being performed, which was done with difficulty, and as the ordinary tube did not reach below the obstruction a special tube was made out of a gum elastic catheter, which was passed two and a quarter inches down the trachea, and this tube was later replaced by one of similar dimensions made of vulcanite. The patient was able to do without the tube for short intervals, but later he contracted scarlet fever, and about five months after the operation was seized with profuse hæmoptysis and died the same day. At the autopsy an abscess was found in connection with the lowest two cervical and the first two dorsal vertebræ, extending in front and to the left of the trachea as high as the clavicle. An opening was found into the innominate artery, which was intimately adherent to the trachea. The distance between the perforation into the artery and the tracheal wound was two inches.

Successful operation for Ankylosis of Jaw.—(Campbell, *Glasgow Med. Journal*, Sept., 1889).—When the patient was six years old he had a severe blow on the right side of the face from the shaft of a cart, which probably caused a fracture of the base of the skull. The jaw was said to be broken and a bandage was applied. This was removed at the end of six weeks when the jaws were found firmly closed and have remained so ever since, that is for 22 years. The patient is sparely nourished, and lives mainly on liquid food; the lower jaw is imperfectly developed, it is firmly closed and no movement can be made out at either articulation. There is right facial paralysis and deafness. Attempts at opening the mouth by the use of wedges failing, the patient was anæsthetised and screw gags used, with no result, except that of demonstrating slight mobility on the left side. An incision was made on the right side extending from a point a little external to the margin of the orbit, downwards and backwards, parallel to the lower border of the zygomatic arch for a short distance, then directly downwards over the ramus of the jaw for about an inch; the temporal artery was thus avoided. On clearing the soft parts from the bone there was no demarcation between the jaw and the temporal bone; the zygomatic arch, the condyle and the coronoid process were all fixed together. The posterior border of the ramus having been defined, the parts representing the condyle and the coronoid process were chipped away with a chisel until a gap of about ¼ inch was left between the skull and the ramus of the jaw. The jaws could now be forced apart to the extent of an inch. Passive and active movements were allowed on the third day, and three months after the operation the patient could eat solid food of any kind, the interval between the jaws being then about an inch.

REVIEWS.

RESPIRATORY FUNCTIONS OF THE NOSE.*

We have here related, in detail, various experiments on the changes which take place in air as it passes through the nasal cavities; changes in temperature, in moisture, and in the proportion of carbon di-oxide are investigated, with the view to enforcing, by an appeal to experimental physiology, the true importance of nasal respiration. The enquiry appears to have been very ingeniously carried out, but yet with simplicity, so that there is little difficulty in understanding, or if desired, in repeating the experiments.

The conclusions arrived at are :—

1. However cold the atmospheric temperature, the air is raised almost, if not quite, to the temperature of the blood, on passing through the nose alone, and before reaching the pharynx.

2. However dry the external air may be, on passing through the nose it is completely saturated with moisture.

3. Gaseous exchanges take place in the nose between the gases of the blood and those of the air, just as in the lungs, and that to a not inconsiderable extent. Moreover, the quantity of carbonic acid exhaled by the nasal mucous membrane is proportionate to the number of degrees in temperature to which the air is raised.

It appears also that in anæmic subjects these changes in the air are less than those taking place in the robust. There is a short chapter devoted to the structure and function of the inferior turbinated bone and a final one to the relation of the physiology of the nose to certain pathological conditions. In this last, attention is drawn to the frequency with which hypertrophy attacks the structures within the nose, producing conditions which are well defined from those of an inflammatory nature. The explanation of this is based upon the experimental observations previously related, where it was shown that when from any cause there is difficulty in nasal respiration, then the amount of moisture absorbed by the air is considerably increased, owing to the diminished barometric pressure. It is argued from this that when the barometric pressure within the nose is reduced by any obstruction, all the blood vessels become overdistended and hypertrophy follows from the increased blood-supply.

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* Respiratory Functions of the Nose. By Greville MacDonald, M.D. London: Alexander P. Watt.

The argument of the last chapter is summarised as follows:—"As a necessary consequence of physical laws and from the teaching of direct experiment, it follows that where we have obstruction to the free access of air to the respiratory passages, there we have diminished air-tension. When the walls of this partial vacuum are yielding, their collapse probably tends to minimise the ill effects that would otherwise accrue. But where, as in the nose, the walls are rigid, all the blood vessels lining them become over-filled, and a state of hyper-nutrition is induced, which in its turn tends to the increase in bulk of one or more of the tissues so affected."

We can strongly recommend this little book to the notice of our readers.

SKETCHES OF HOSPITAL LIFE.*

These sketches are no doubt intended to popularise certain aspects of hospital work and to interest the public in them, while at the same time the author takes the opportunity to point out those matters in which reform is desirable. It is a very readable little book, the only thing to complain of being the somewhat hysterical description of nurses. On page 39 a matron is made to say: "Nearly all my best nurses have histories, and it seems to me that only those who have suffered themselves can properly aid the sufferings of others." Of course everyone has a history, and those who have suffered are more tender for the suffering of others, but the suggestion that a large proportion of hospital nurses are the heroines of unwritten romances is really a libel upon a very respectable and commonplace body of women.

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* Sketches of Hospital Life. By Honnor Morten. London: Sampson Low, Marston, Searle, and Rivington, Limited. 1888.

In the sketch called "Jessie's Story," Jessie is a nurse who lets the man she loves die from opium-poisoning because he had taken to drinking. "Her strong, simple self said—'Let him die,'" though she could have saved him. This is not the rule of conduct for anyone who claims to be a son or daughter of Æsculapius. It is not for us to discriminate between the vile and worthless and the good and noble, but to save life whenever and wherever we can. We hope the author's practice is better than her preaching.

THE SKIN DISEASES OF INFANCY AND EARLY LIFE.*

We should not *a priori* have suspected the necessity for a book devoted to the skin diseases of children; and the existence of this work of 200 pages has certainly done nothing to excite such suspicion. Dr. Campbell seems to have been inspired to write it by the want he believes to exist of a book on the subject, of intermediate size between the special works on skin diseases and the more or less elaborate articles in the general treatises on the practice of medicine or surgery. It is written in the interests of the busy practitioner, who may "mar a professional reputation by an inaccurate opinion." If the prevention of such a calamity be desired, it would more surely be attained by reference to standard text-books than by reliance on the same books strained through the sieve of Dr. Campbell's experience. It would be difficult to say of any skin diseases, excepting strophulus or congenital diseases, that they were peculiar to infancy and childhood; and it is clearly undesirable to endeavour to establish any such distinction.

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* The Skin Diseases of Infancy and Early Life. By C. M. Campbell, M.D., C.M. Edin. London: Baillière, Tindall, and Cox. 1889.

ANATOMIE TOPOGRAPHIQUE DU DUODÉNUM ET HERNIES DUODÉNALES *

This little book contains an interesting account of the duodenum, its peritoneal and general relations and mode of fixation. The portions, however, likely to be of most interest to medical men in general are those which deal with the peritoneal pouches in relation with this portion of the gut and the herniæ with which they may be connected. On both of these subjects full information is given, a good historical account of the subject of retro-peritoneal hernia forming a part. Clinically their symptoms appear to be somewhat indefinite, as they manifest themselves chiefly by gastric or intestinal troubles, such as colic, dyspepsia, arrest of fæcal matter leading to hypochondria, frequent vomiting, and the like.

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* Anatomie Topographique du Duodénum et Hernies Duodénales. Par Jumesco. Paris: Aux Bureaux du *Progrès Médical.* 1889.

THE PHYSIOLOGY OF THE DOMESTIC ANIMALS.*

Dr. Meade Smith will doubtless earn for himself the gratitude of veterinary students, for whom he has prepared this handsome volume, consisting of over 900 pages and containing more than 400 illustrations. Already provided with works on veterinary anatomy, such as that of Chauveau translated into English, they were without an animal physiology in the same tongue. The work under review seems well adapted to fill the vacant place. It has evidently been carefully prepared by one who has made himself familiar with his subject as a student and a teacher. To non-veterinary physiologists the book is also likely to be of use as a work of reference. The general reader will be interested in the account given of the physiology of motion, and especially in that part which relates to the vexed question of the paces of horses, which is enriched with figures from Colin and with a number of illustrations taken from the work of Mr. Eadweard Muybridge, whose observations have recently excited so much attention on both sides of the Atlantic.

TOOTH EXTRACTION.†

We cannot quite see the purpose of this little pamphlet, and do not know whether it is intended to be a guide to medical men or dentists, but presume the former, as the dental student is compelled to attend two years' dental hospital practice before he can present himself for his examination, where he daily witnesses and performs all the operations incidental to dental surgery.

In the majority of large hospitals at present there is a dental department under the charge of one or more duly qualified dental surgeons, from whom the medical student can obtain the necessary knowledge and practical experience to enable him to become an expert operator ; and as the future of many a man will be cast in remote country districts, probably far removed from the services of the professional dentist, it is absolutely necessary that he possess a fair knowledge of tooth extraction. Beyond that, we would give the author's own advice on page 31 : "The surgeon would relieve himself of anxiety, and save time, by passing his patient into the hands of a professional dentist."

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* The Physiology of the Domestic Animals. By Robert Meade Smith, A.M., M.D. Philadelphia and London: F. A. Davis. 1889.

† Tooth Extraction: A Manual on the Proper Mode of Extracting Teeth. By John Gorham, M.R.C.S. Lond.

Letter to the Editor.

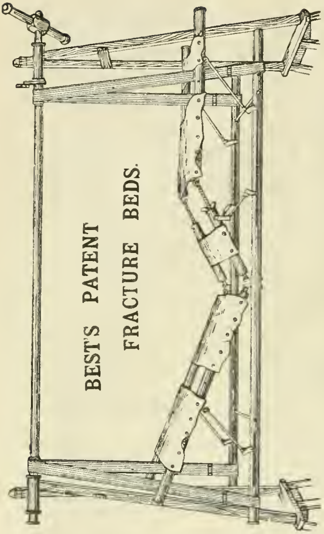
Edgbaston, Sep. 16, 1889.

To the Editor of the "Medical Review."

Sir,—In the *Contemporary Review* for August there is an article from Sir Morell Mackenzie on "Song." In this month's number Mr. Lennox Browne charges him with being misled by "apocryphal authority," meaning me. The Editor refuses to correct this error. The following extract from Signor Garcia's "Singing School" will show that Mr. Browne is the "apocryphal authority," not myself. "Raise the chest by a slow and regular motion, and draw in the stomach." The old school of song always used breath in varying states of compression ; in the false method advocated by Mr. Browne compression is impossible. It is a pity physiologists and natural physicists do not settle this point while direct art evidence is obtainable. The school that produced Grisi, Mario, Alboni, Rubini, Malibran, Jenny Lind, etc., is the school of which I write ; the school that produces Herr Emil Behnkes, etc., is the school of which Mr. Browne writes.

I am, yours truly,

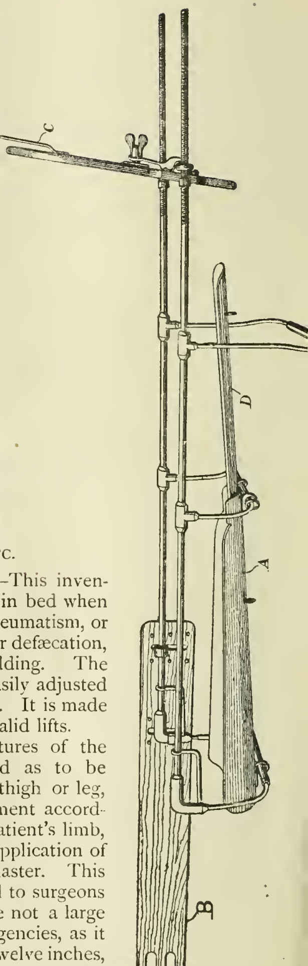
Charles Lunn.



NEW INVENTIONS, ETC.

BEST'S PATENT FRACTURE BED.—This invention is designed for lifting patients in bed when they are suffering from fractures, rheumatism, or paralysis, and require to be raised for defæcation, wound-dressing, or change of bedding. The apparatus is light, portable, and easily adjusted to the patient without disturbing him. It is made in two less complicated forms as invalid lifts.

BEST's Patent apparatus for fractures of the lower extremity can be so arranged as to be available for fractures either in the thigh or leg, or both, it admits of exact adjustment according to the length and width of the patient's limb, and is an important help in the application of moulded splints, either starch or plaster. This splint will be found especially useful to surgeons practising in the country who have not a large stock of apparatus to turn to in emergencies, as it admits of elongation to the extent of twelve inches, and when not in use it may be made up in a parcel thirty inches by twelve, and three thick.



THE MICROSCOPICAL EXAMINATION OF URINE.—We desire to draw the attention of our readers to the improved pattern of urinary pipette which Messrs. Philip Harris and Co. now supply. They are made of thick glass, so that they do not break easily, with a small bore, so that they take up a few drops of fluid only, and thus are much more selective than the older form. We strongly recommend their use to all who desire to make microscopical examinations of urinary sediments.

Miscellany.

CHINESE OBSTETRIC CUSTOMS AND SUPERSTITIONS.

Dr. A. M. Fielde (in the *Philadelphia Medical News* for August 24th.) writes interestingly on facts and superstitions concerning pregnancy and parturition as observed at Swatow, China. Nearly all the Chinese women maintain a sitting posture during labor and delivery. A few are unable thus to bring forth the child, and these are called "recliners."

The umbilical cord is never divided until after the emergence of the placenta, because it is supposed that this would cause the contents of the womb to rise and remain among the internal organs, causing speedy death. After the appearance of the placenta the cord is tied by a thread, about one inch from the umbilicus: a loop is made by bringing the distal portion toward the body; a second knot is tied securely upon the first over the double cord, "to prevent the entrance of wind," and the cord is then cut near the second knot. The part of the cord left with the placenta is not tied.

If there is much delay in the expulsion of the secundines, various methods are pursued in assisting the patient. The mother-in-law or midwife goes behind the house in which the patient lies, raps smartly with a carrying-pole on the wall, and shouts, "Is it out yet?" An assistant responds from inside the house, "It is out." This performance is repeated, with short intervals, until the desired result is effected.

Another method of hastening the expulsion of the afterbirth is to have the patient lean over a horizontal bar, supporting herself partially upon her hands. This sometimes starts the adherent placenta, but is discomforting to the attached infant. Some midwives insert the hand and detach the placenta, but mothers greatly fear this operation. It is asserted that one woman had her liver pulled out by the attending midwife, and consequently died. Native male physicians are under no circumstances called in cases of childbirth.

A girl that is born face downward, or one that is guilty of micturition or defæcation immediately after birth, is straightway smothered, because of a superstition that such a child would be injurious to its parents.

A pregnant woman is advised not to handle edged tools. If she does so her offspring is likely to lack a finger or a toe, or to have a harelip or a split ear.

Two pregnant women will not sit together on the same bench. As each woman hopes that her child is a male, and as it is thought that there may be an occult exchange of sexes between embryos that are brought into vicinage, it is considered wise to avoid the risk of having the supposed masculine tenant of the womb superseded by a female.

If a child has been touched by a pregnant woman, and sickens soon afterward, its mother winds a skein of silk made up of threads of five colours around a potato and roasts the potato in ashes. If the silk is burned during the process of roasting, it indicates that the ailment was not caused by the touch of the pregnant woman. But if the silk is not burned. as sometimes happens, then the mother of the injured child throws the potato over her house, and it is believed to produce a miscarriage in the woman who has caused the disease, while the sick child recovers.

Many men have purses made by women approaching confinement, hoping that the woman's plethoric condition will be mystically reproduced in the money-bag !—*Boston Medical and Surgical Journal.*

New Books, etc., Received.

Hygiene and Public Health. By LOUIS C. PARKES, M.D., D.P.H. Lond. London : H. K. Lewis. 1889.

The Ptomaines, Leucomaines, and Extractives ; their position as possible Originators of Disease. By A. S. UNDERHILL, M.D., B.A., M Ch. ; D.P.H. Camb. Reprinted from Public Health. London : W. B. & L. Collingridge.

Report on the Health of the Borough of Birmingham for the quarter ended June 29th, 1889. By ALFRED HILL, M.D., F.I.C. Birmingham : George Jones and Co.

The Human Foot, its Form and Structure, Functions and Clothing. By THOMAS S. ELLIS. London : J. and A. Churchill. 1889.

Outlines of the Clinical Chemistry of the Urine. By C. A. MACMUNN. M.A., M.D. Dub. London : J. and A. Churchill. 1889.

On Bedside Urine Testing. By GEORGE OLIVER, M.D. Lond., F.R C.P. Fourth Edition. London : H. K. Lewis. 1889.

Notes on Medical Education. By SIR JAMES SAWYER, Knt., M.D. Birmingham : Cornish Bros. London : Simkin, Marshall and Co. 1889.

On the Relation of the Heart and Blood in Animals. By WILLIAM HARVEY, M.D. Willis's Translation, revised and edited by Alex. Bowie, M.D.. C.M. London : George Bell and Sons. 1889.

The Principles and Conditions of Artificial Feeding. By W. B. CHEADLE, M.A., M.D. Cantab., F.R.C.P. London: Smith, Elder and Co. 1889.

The Various Manifestations of the Rheumatic State. By W. B. CHEADLE, M.D. London : Smith, Elder and Co. 1889.

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THE

BIRMINGHAM MEDICAL REVIEW.

NOVEMBER, 1889.

ORIGINAL COMMUNICATIONS.

THE TREATMENT OF SCIATICA.

BY R. M. SIMON, M.D. CANTAB., M.R.C.P. LOND.
SENIOR ASSISTANT PHYSICIAN, GENERAL HOSPITAL, BIRMINGHAM.

In November, 1888, I was called to see a practitioner living in a very bleak part of Staffordshire, and suffering acutely from sciatica. For over six months he had been more or less incapacitated from doing his work, as he suffered a great deal from pain which prevented his sleeping well, and could only with great difficulty get into his open gig to visit his patients. When I saw him he was very miserable, worn out with pain and sleepless nights, and in despair of obtaining any permanent relief. He had pretty well exhausted the resources of the Pharmacopœia, and, being gouty, had used alkalies and colchicum freely. He had improved somewhat after a visit to Droitwich in the summer, but during the last few weeks had got much worse and had become quite unable to get about to do his work. We agreed that he should take five grain doses of antifebrin and iodide of potassium three times a day; and I heard in a few days that he had slept well and comfortably for the first time for several months. He did not make any progress so far as the pain and lameness were concerned; and a month later I received an urgent telegram to go and see him. When moving in bed that morning he had been suddenly seized with a terrible pain in the leg, about the middle of the thigh, and up to the time I saw him, at about mid-day, had remained lying across the bed in the greatest agony. About one grain and a half of morphia had been injected with only partial relief. There was a very slight fulness over the middle of the thigh where the pain was most acute, and the nerve throughout its course was very tender. Four leeches were applied, and the bleeding was allowed to continue for nearly 24 hours. As the bleeding went on, the pain decreased; he had a good night, and woke quite free from pain. His lameness gradually disappeared, and within a month he followed the hounds on foot near Droitwich, where he had gone to take the baths and complete his cure. The effect of the leeching was magical; and though he took no more medicine, the cure was complete, and up to present date there has been no recurrence, despite his continuing to drive about in all weathers in an open carriage. The rapid transition from the most awful pain to a state of good health and walking power was most remarkable.

Sir Joseph Fayrer, in the April number of the *Practitioner*, 1886, records a somewhat similar case which occurred in his own practice. "The pain," he says, "had lasted for some years, and was very severe, continuous, liable to increase, and of a paroxysmal character. The posterior muscles of the thigh were somewhat atrophied. The patient was wasted and worn by continuous suffering and deprivation of rest and sleep. All the usual methods of treatment had been resorted to, but without relief. On examining the limb carefully, he detected, with some feeling of fluctuation, a fulness and tenderness in the course of the sciatic nerve near its origin in the upper part of the limb. He therefore introduced a long narrow knife into the swelling until it entered the sheath of the sciatic nerve. This gave exit to a certain quantity—a couple of drachms or so—of clear serous fluid, which was followed by immediate relief of suffering, and rapidly resulted in complete recovery." He thinks it possible, therefore, that the success often following acupuncture in cases of deep-seated pain may sometimes be due to the relief of tension caused by evacuation of fluid which has accumulated as a result of inflammation in large or small nerve trunks.

My case differed in no respect, except its severity and immediate cure after leeching, from any ordinary case of sciatica occurring in a gouty man. From its onset to its termination the pain was continuous, unless the part was kept at rest in such position as to avoid painful tension of the nerve. The nerve itself was tender when pressed, and there were several anæsthetic spots in its course, notably on the foot.

These two points are, as Gowers shews, of the first importance in excluding neuralgia as the cause of the pain, and assigning it to its real cause—a neuritis of the sciatic nerve. He says: "The subjects of neuralgia have often suffered from neuralgia elsewhere, and are generally weakly and anæmic. The pain is from the first spontaneous; posture has little influence upon it; movement is not itself painful, although it may excite paroxysms of pain. The pain is referred to the branches and distribution of the nerve rather than to its trunk, and tenderness of the nerve, if it exist, is altogether subordinate to the spontaneous pain."

It has always been recognised that neuralgia of the sciatic may occur in people of impaired health, especially such as have suffered from neuralgia elsewhere. The treatment of such a sciatica is no way different from that of ordinary neuralgia; *i.e.*, constitutional conditions, such as gout, anæmia, malaria, must be attended to, and counter-irritation, best in the form of the actual cautery, must be applied along the course of the nerve. Pain along the sciatic may also be due to tumours in the pelvis pressing on the nerve, and can only, if at all, be relieved by surgical interference. These two rare conditions, neuralgia and pelvic pressure, being excluded as causes, there remains that vast proportion of cases of sciatica which are due to neuritis to be dealt with. It is possible to deduce additional arguments from the result of treatment in favour of the neuritic theory. Antipyrin and antifebrin, which are of the utmost value in relieving the pain associated with such well-marked conditions of inflammation of the posterior nerve roots as locomotor ataxy and herpes zoster, are equally useful in dealing with the pain of sciatic neuritis; it is therefore reasonable to infer a similar origin to all pains, which are relieved by the same drugs that give so much relief in the better known conditions of neuritis.

It is essential in every case to prescribe complete rest of the limb, and most cases if treated in this way with the addition of hot linseed meal poultices along the affected nerve will soon get well.

As by far the majority of cases of sciatica occur in people of gouty habit, and may be attributed to cold, it will be advisable, in addition to rest and poulticing, to order saline purgatives, and iodide of potassium in five grain doses together with a similar amount of antifebrin. So treated an early case will usually soon improve, but despite of treatment it may sometimes run on into a chronic form and present greater difficulties. Unfortunately, to these must be added the more frequent cases in which medical assistance has not been invoked until the disease has become chronic. All sorts of drugs have been used in this stage, but with the exception of iodide of potassium and antifebrin I have found benefit from none of them. Salicylate of sodium especially has been fully tried, but in my hands without avail.

Hypodermic injection of morphia or cocain will often give relief to the pain, but have no curative tendency. Sedative liniments have only temporary value, and are rarely of service.

If there be fulness at any part of the nerve acupuncture or leeching, as in Fayrer's case and my own, may be tried; and failing these, massage and electricity must be used.

Faradism may be useful when the disease is cured to restore the tone of the atrophied muscles, but it is harmful rather than serviceable in an early case. Galvanism only should be used while pain exists, and best in the way recommended by Dr. Steavenson, the electrician to St. Bartholomew's Hospital, in the *Lancet* of Jan. 19th, 1884. The patient is allowed to lie on his bed, and only the back of the affected leg uncovered. A wet pad of metal and amadou connected with the positive pole of a Coxeter's constant current battery is to be placed on the abdomen, and held in position by the patient. A carbon disc electrode covered with chamois leather connected with the negative pole is moved gently up and down over the course of the sciatic nerve. The skin is to be previously moistened with warm salt and water, as also are both electrodes.

In a further paper in the *Lancet* of July 17th, 1886, Dr. Steavenson records the result of his treatment of 61 cases by galvanism :—37 were cured, eleven improved, 9 were lost sight of, 2 were unrelieved, and 2 were still under treatment at the time of writing. The two unrelieved cases were due, the one to extensive necrosis of the ischium with a sequestrum of dead bone, and the other to the presence of a displaced uterus. Of the cured cases 25 needed only from one to nine applications of the battery, and none of the others needed more than fifteen visits. These results are remarkable, and the good derived greatly in excess of that attained by less accomplished electricians. They should be an encouragement to persistence in our use of galvanism, and certainly it should be most thoroughly persevered with before resorting to the more drastic remedy of stretching the nerve.

In a paper in the *Practitioner* of November, 1887, Dr. Eccles records his experience with massage. Except where the sciatica was a manifestation of general neuralgia, his results were excellent; and he concludes that, with the exception of incision of the sheath of the nerve, there is no mechanical process whereby the products of inflammation can be so directly removed as by direct massage of the affected limb.

Eichhorst has shewn that the nerve sheath contains blood vessels and lymphatics, while between the lamellæ of the perineurium there are lymph spaces which can be injected from the lymphatics in the vicinity of the nerve trunk. In cases of neuritis, wherein the pathological conditions are great distension of the blood vessels and lymphatics of the epineurium and a corresponding dilatation of the perineuritic lymph spaces, Dr.

Eccles thinks it is not unreasonable to suppose that much of the acute suffering in sciatica is due to the pressure of the abnormally increased fluid within the nerve sheath upon the nervi nervorum with which Mr. Horsley has shewn it to be endowed; and he hazards the suggestion that the degeneration of the nerve fibres is due in many cases to the interference with their nutrition by the œdema within and the stagnation without the affected nerve sheath.

He recommends that the process should be initiated by as vigourous kneading as the patient can bear of the whole circumference of the limb, as far away above the focus of the disease as possible; in other words the proximal lymph trunks and spaces above the seat of the mischief should first be unloaded; and if this is achieved the measurement of the limb should, after massage, reveal some slight diminution in the circumference. Then, either on the same occasion or at the next sitting, the manipulations should be practised nearer to the affected part, and as soon as may be the part itself, indeed the whole limb should be dealt with so as to induce and maintain a more rapid circulation both of blood and lymph through the vessels, thus at the same time encouraging a more frequent renewal of nutrition and a more rapid absorption of effete material. During the course of the treatment rest in bed is enforced, and the leg is swung in a Salter's swing.

The suggestion of Sir Joseph Fayrer as to the cause of the occasional good derived from acupuncture, and the benefits derived from massage all tend to make it very probable that Dr. Eccles' theory is correct, and the case above recorded is a further support to his view that the pain and neuritis may be due to the pressure of the abnormally increased fluid within the nerve sheath. The theory is a hopeful one, it opens up a prospect of relief in some of the most obstinate cases, while it may fairly be said to be a most powerful argument for the thorough local treatment of sciatica.

One other method only remains to be mentioned—namely, nerve-stretching. Gowers suggests that it acts by effecting an energetic counter-irritation and enforcing a beneficial rest, but it seems more probable that its chief value lies in the release of the nerve from adhesion. It should always be done as a *dernier ressort*, and except where the disease is due to organic disease in the cord or the pelvis will almost certainly do good.

It is not a process to which patients will submit until other means have been tried and have failed, but as has been proved by large numbers of cases it will always relieve and often completely remove the pain and its effects.

CASE OF INCONTINENCE OF URINE DUE TO PERSISTENCE OF GAERTNER'S CANAL.*

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A. H., æt 14, came to me at the Out-patient department of the Birmingham Women's Hospital in September, 1883. Her mother said she had not noticed that the child suffered from incontinence of urine, until she was six years of age. At that time she had scarlatina, and on her recovery the mother found the girl sometimes wetted her bed, and also got wet by day, but at that time a week might pass without either being noticed. As she got older the dribbling by day became worse, but it has never been constant at night, two nights or even a week might pass without its occurring. As no cause for the incontinence could be detected, although the strong urinous odour and reddened and roughened condition of the vulva showed it must be constant, the girl was admitted by Dr. Savage into the Hospital at Sparkhill, to be more thoroughly examined under an anæsthetic. Ether was given, and whilst coughing from its effect, a fine stream of urine was seen to come from a small papilla about an eighth of an inch below and to the right of the urethral orifice. The opening into this papilla was too small to admit the finest probe, but on the papilla being snipped half way through, a probe passed without difficulty into a passage from which urine escaped in drops, or when the girl coughed, in a fine stream. The probe passed easily about two and a half inches along this passage, taking a course slightly to the right of the urethra, but it could not be passed further than this. The girl remained in bed a few days, and whilst she did so the incontinence appeared to have ceased, but on getting up it was as bad as ever.

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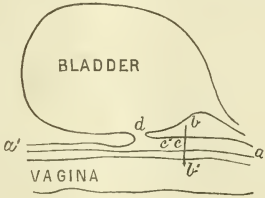
* Paper read at the British Medical Association, Glasgow, August, 1888.

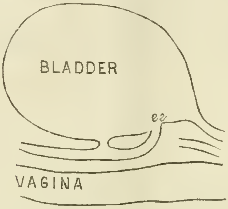
In December she was again examined under ether. A No. 12 catheter was passed as far as the probe had previously gone along the passage, and milk and water injected. The passage was felt to dilate beyond the catheter like a large distended varicose vein. The catheter becoming choked, was withdrawn, and after slightly enlarging the opening into the passage a No. 9 catheter was introduced and milk and water again injected; the passage dilated as before beyond the catheter, and then suddenly collapsed, and, although half a pint of milk and water was rapidly injected through it, the passage did not dilate again; towards the end of the injection it was noticed that the vagina was filling with milk. A catheter was then passed into the bladder and about the same quantity of milk and water was withdrawn as had been injected. Milk and water was again injected through the passage to see where the fluid entered the vagina. A very fine stream was detected escaping through the roof of the vagina rather beyond the point to which the catheter would pass. Dr. Savage then cauterized the orifice of the passage on the chance that the contraction set up might close it. During the time the patient remained in bed the incontinence ceased, but returned directly she got up.

The girl was readmitted into the Hospital Feb. 5th, 1884, Dr. Savage kindly leaving the case to my care. My intention was to dissect out the lower end of the passage and turn it into the bladder, this having been the method adopted with success in a similar case published in the *New York Med. Jour.* for Dec., 1878, by Dr. W. H. Baker, of Boston, but as this course was objected to by some of the staff, as likely to lead to further complications, it was not done, but the passage was dissected out for half an inch, the orifice pared and the end inverted and closed with sutures. The patient remained in bed ten days and had the water drawn off during that time with a catheter, but on getting up, the incontinence was as bad as ever.



a a' Abnormal passage.
b b' Line of incision through vaginal wall and abnormal passage.
c c' Portion of passage freed by dissection.
d Natural opening between bladder and abnormal passage.

In Nov., 1885, the girl again came to the out-patient department asking if something more could not be done, as the incontinence prevented her earning her living. She was admitted into the Hospital. The condition of the passage was found to be unchanged. On distending the bladder with milk and water, little, if any, returned by the abnormal passage, but milk, injected through the passage, passed into the bladder. It was decided the operation adopted by Dr. Baker in his case should now be done. The passage was first cut across about an inch and a half above the orifice, the upper cut end was then carefully freed by dissection for a third of an inch; a sound passed into this was found to enter the bladder a little distance beyond the highest point to which the dissection was carried, its free end being felt by a finger in the bladder. An attempt was made to invert the dissected portion of the passage into the bladder through this natural opening, but without success. An incision was therefore made into the bladder at the level of the first incision in the vaginal roof, and the free edges of the upper cut end of the passage were stitched to the opposite margins of the incision with two fine silk sutures. The wound in the vaginal wall was then closed with three wire sutures. A catheter was tied into the bladder and left for a fortnight, the wire sutures were then removed, and two days later the girl was allowed to get up. She was found to be quite free from the incontinence both by night and day, and continued so until the second catamenial period after the operation, when the incontinence returned by night but not by day. As this persisted the bladder was explored with a sound, as it was thought the silk sutures, which had never been seen to pass although carefully looked for, might be causing irritation, but nothing was felt in the bladder. The bladder was then injected with milk and water none of which escaped into the vagina, nor could the abnormal passage be detected, showing that the operation had successfully closed it and that the incontinence was no longer due to its patency.



e e Position of sutures stitching passage to mucous membrane of bladder.

The girl was ordered a mixture containing strychnine, cantharides, and belladonna. At the end of a month she reported herself better, but not quite free from her trouble. She then ceased attending the hospital, and was lost sight of until November, 1887, just two years from the last operation. She then said that soon after her last attendance at the Hospital the incontinence entirely ceased, and she had never since had any return of it.

Dr. W. H. Baker in his paper looks upon his case as an example of a malposition of the left ureter or of a supernumerary ureter, but admits there is a difficulty in its being the left ureter, from the small amount of urine which escaped from it in comparison to that passed in the natural way from the bladder. They may be cases of persistent Woolfian Duct, having an abnormal connection with the kidneys and bladder. In the case under my care the passage clearly went beyond the vagina, for although the probe and sound would not pass more than two and a half inches, the passage was distinctly felt to dilate, when injected with milk, beyond this point, until it was lost passing through the vaginal roof. It was never quite clear that any milk returned from the bladder into the passage, although milk injected through the passage passed as readily into the bladder as if it had been injected by the urethra. This points to the opening between the bladder and passage having been valvular, and may explain why the incontinence varied, being less constant by night and in bed than when moving about.

NOTES ON A CASE OF SCARLATINA OCCURRING AFTER OPERATION.

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It is considered by some observers that when Scarlatina follows a surgical operation, or after labour, the type of the disease is modified in a specific manner, and that the stage of incubation is abnormally hurried. This has been noted by Paget after lithotomy and by Hicks after labour. Some observers have even gone so far as to state that the disease is *sui generis* and not a true scarlatina; my own experience and observation have led me to consider that all cases of scarlatina following any accident, or where there has been a breach of the surface, *e.g.*, after burns, operation, and labour, are scarlatina pure and simple, and that the type is no more modified than is usual with scarlatina under ordinary circumstances. It is true that in several cases which I have investigated I have been unable to satisfactorily explain its advent from a pre-existing bacillus or to discover the link between it and a previous case of scarlatina. I have noted that it did not seem so highly infectious as are ordinary cases of scarlatina, but this has probably been an accidental circumstance, as we do occasionally meet with a case of scarlatina, where no special precautions have been taken to prevent its spread, singling out one of a family and allowing the others to escape; but on the other hand, an immunity from a further attack of scarlatina seems to be obtained, for I have had cases removed into a Scarlatinal Ward where children after operation had presented the usual objective symptoms of scarlatina, and as far as I could judge their cases have usually run a very ordinary course, and as long as they have been under my observation have not developed any further specific scarlatinal symptoms. In the wounds, where primary union has taken place, I have not discovered anything abnormal about the cicatrix, nor have I known one break down. In some cases where granulation was taking place (but this was not a constant occurrence) the discharges have been very scanty during the rash, and the wound has assumed a glazed appearance, the healing process having, seemingly, been held in abeyance for the time, but after about a week the normal healing process has continued unchanged as far as could be judged by naked eye appearances.

Through the courtesy of my colleague, Mr. Messiter, under whose care the case was primarily placed, I am enabled to record an example of typical scarlatina following an operation.

On Sep. 3rd a male child æt. 11 years was admitted into one of the female wards of the Guest Hospital suffering from a recent gunshot wound of his shoulder. Temp. on admission 99·2° F.

On Sep. 18th Mr. Messiter excised the left hip joint from a child æt. 4 years who was suffering from morbus coxæ.

Sep. 21st., afternoon. As the child was restless and cross case No. 1 was removed into the children's ward and placed in the next bed to the child who had been operated upon so as to help to keep him quiet.

Sep. 22nd. The hip-joint child was hot and feverish, Temp. E. 102° F., rising as the evening advanced to 104° F., and before nightfall he vomited.

Sep. 23rd. Temp. M. 100·8° F. Nurse when washing him noticed a red rash on his chest and arms. There was no angina but the rash was a typical scarlatinal rash. Sudamina were abundant on chest and abdomen. The disease ran a normal course ; free desquamation came on early—on the eighth day—(probably increased by the sudaminal scales). The wound discharged freely after the rash disappeared. There were no complications.

On making a careful enquiry Mr. Strong, our House Surgeon, learnt from the mother of case No. 1 that for a week or ten days previous to his admission the child had had a sore throat, and that three other children in the same school that he attended were ill with scarlatina. Her child had not had, as far as she knew, any rash, and at the time of his accident he was playing about outside the house seemingly quite well.

The boy had a very dark skin, and although he had been stripped each day, and was constantly under the notice of the house surgeon and the nurses, there was nothing discovered on him to excite attention. After child No. 2 developed scarlatina a very minute examination was made of him, and the palms of each hand presented evidences of recent desquamation.

In this case the incubation must have been less than twenty-four hours, but this short incubation is not uncommon in scarlatina. The symptoms consequent on the operation so masked the onset of the specific symptoms as to make it very difficult to tell the precise incubation to two hours. Again, the progressive rise of temperature during the primary fever stage and the sudden drop when the rash appeared is an interesting but not uncommon occurrence in cases of zymotic disease. The further history of the child is very ordinary, but the case shews clearly how susceptible a child after operation is to the scarlatinal poison, although the wound may be—as was this one—dressed strictly antiseptically, and it furnishes an illustration of the possibility of finding the missing link in most cases, remote as that may seem to be to the one under observation. It also accentuates the difficulty we often experience in deciding the question as to the length of time that should elapse before a child who has suffered from scarlatina be allowed to mix with other children. As a Medical Officer of Health I always give six weeks from the time of appearance of the rash, and not then unless every trace of desquamation has disappeared and the child is free from all discharges. Cases differ so much that it is impossible to lay down any definite rule as to time; but this is a minimum time, and I think should never be shortened even after the mildest attack. This boy was eighteen days in an ordinary female ward without children, had been bathed well, had had antiseptics used in abundance about his shoulder, but nevertheless he had sufficient of the poison about him to infect in a few hours a child whose wound had been as carefully dressed as his own.

As a practical outcome of the observations of Mr. W. H. Power and Dr. Klein (*Report of the Medical Officer of the Local Government Board.* Milk Scarlatina. London, 1885) which shewed a limitation of the disease to an area in which was supplied milk from a dairy the proprietor of which had used the milk given by a diseased cow, it would seem advisable after every operation, previous to and after labour, and *during the menstrual period*, to thoroughly boil the milk used, and so rid it of most micro-organisms. Extended observations since the report already referred to has been published have tended to strengthen the opinion therein contained, but we have at hand in *thoroughly* boiling a simple and efficient means of excluding from our milk diet micro-organisms of various kinds, or their products, which might find in our patients a suitable soil for reproduction, or of infecting, when from ignorance or culpable negligence such unwelcome guests may have tainted our milk supply.

REPORTS OF CASES.

CASES OF DIABETES MELLITUS, ILLUSTRATING VARIOUS PHASES OF ITS CLINICAL HISTORY.

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Case 13.—*Diabetes Mellitus—polyuria—thirst—wasting—intercurrent pyrexia resembling Typhoid.*

Agnes L., 8, school girl, was admitted into hospital on Feb. 7th, 1887, complaining of thirst, hunger, headache, and passing a large quantity of water.

History.—Her mother had noticed that these symptoms had been coming on for six months, as she was constantly drinking water and losing flesh. She had been previously pretty well, but never strong since she was four years old. Her sister was with her in the hospital with diabetes, and another child had died of the same disease at the age of 11. Six others and the father and mother were alive and well. Nothing was known of any other cases of diabetes in the family.

Condition on Admission.—She was a small, ill-nourished child, of strumous appearance. T. 98°, P. 96, R. 18. Her tongue was dry and clean; the only abnormal signs were deficient resonance and feeble breath sounds at the left apex. Urine 58 oz., sp. gr. 1013, acid, contained 3 per cent. of sugar, no albumen.

Progress of Case.—She was dieted and treated by alkalies and cod liver oil. On this treatment the urine increased in amount, but the sugar diminished and was often absent. She gained weight. But in the middle of March she complained of her throat being sore, and though there was nothing to be seen, her temperature for five days was 101°

each evening. During this time the urine fell from 80, 90, or even 130 oz. to 30, 40, or 50 oz. daily, sometimes only containing sugar.

The temperature was normal on the 18th and 19th; on the 20th it rose to 100°; was normal on the 21st; and then began, and for the next fifteen days described, a course very like that of a typhoid relapse. She complained of abdominal pain, her tongue was dry and coated, her face flushed, and the spleen was distinctly enlarged.

On the 28th, 29th, 30th, and 31st some very suspicious looking spots were seen on the abdomen, and the stool on one day was said to be quite a typical typhoid stool; but no other spots came out, and on the 5th the temperature was normal. During the period of fever the urine was never more than 44 oz. daily, and sometimes under 20 oz., while there was often no sugar present, and never more than 0·7 per cent.

After this she went on fairly well, but it was difficult to feed her. On her discharge she was improved in appearance and had gained 6 lbs. in weight.

Case 14.—*Diabetes Mellitus—thirst—polyuria—wasting—three members of family affected.*

Mary Ann L., aged 10, sister to Agnes L., was in the Hospital at the same time under my care. She had been ill four or five years. After admission she remained in the Hospital five months, gaining weight and improving somewhat on anti-diabetic diet, but she was difficult to feed. There were no incidents worthy of notice during her stay, nor any other points of interest in her case.

Case 15.—*Diabetes Mellitus—thirst—polyuria—wasting—sciatica.*

Josiah W., 56, came to the out-patient department on April 1st, 1886, complaining of pain and swelling in the right leg, which he had been told was sciatica. He also complained of violent pain in the abdomen, of great thirst, and of passing a large quantity of water, as much as three pints in the night alone.

History.—He had been under treatment for six weeks, but the pain began a month earlier. He had been losing weight. He had usually enjoyed good health, but eighteen years previously he had "rheumatics," and was laid up five weeks, with pains which shifted about; his knees were swollen at the time. He had bronchitis twelve years ago; he had never had gout. Had a comfortable home; said he was temperate, but drank two or three pints of beer daily. He used lead in his work to hold the castings, but there was no lead dust. Father died, aged 63, of apoplexy. Mother died, aged 63, of dropsy. Of his thirteen brothers and sisters five were living in good health; the others died in infancy, except one sister who died in childbirth.

Condition on Admission.—He was a big, stout man, with a florid face; weighed 14 st. 3 lbs. No blue line on gums. Right leg pitted on pressure, but there was no obvious œdema, except some puffing over the instep. No œdema elsewhere. Pulse 88, resp. 18, temp. 98·8°. Physical signs normal. Breath foul; tongue red at edges; suffered from wind; bowels regular. Urine 76 oz., loaded with sugar, a cloud of albumen.

Progress of Case.—He was put on diabetic diet with an alkaline mixture, and the sugar at once disappeared. The pain rapidly improved. On being allowed ordinary diet the urine contained 2 per cent. of sugar, which disappeared again at once on the diabetic diet being resumed. The swelling and pain completely disappeared, and before he left he was allowed a little brown bread, without giving rise to any return of the glycosuria. He was discharged on May 5th and made an out-patient.

Case 16.—*Bilateral Sciatica—glycosuria—albuminuria—no polyuria or thirst.*

Ebenezer H., 65, came as an out-patient on May 14th, complaining of paroxysms of excruciating pain in the course of the sciatic nerves.

History.—He said the attacks lasted six to eight hours, and that they had come on about once in three months for the last twenty years. For thirty years he had been subject to attacks of gout. He did not know of any case of diabetes in his family.

Condition on Admission.—He was a short, stout, florid man; he had lost most of his teeth; his bowels were confined. Physical signs normal. Urine, sp. gr. 1013, acid, a cloud of albumen; reduced Fehling moderately. He was dieted, and ordered to take the following:—

R. Sodii salicyl. gr. xv.
Inf. gent. ℥ i.
Ft. mist.
S.—To be taken thrice daily.

May 28th. The urine was free from sugar, and there had been no more paroxysmal pain.

Case 17.—*Diabetes Mellitus—glycosuria—polyuria—wasting—sudden onset at the menopause—cystic goitre.*

Elizabeth K., 50, attended as an out-patient on May 7th, 1889, complaining of thirst, hunger, and "the flesh all leaving her." She had been ill a year and nine months. She had never had gout, rheumatism, or any serious illness or accident. She was married, and had had eight children. She knew of no member of her family who had suffered from diabetes or gout. Menstruation ceased quite suddenly at the time that these symptoms came on. Patient was a fairly developed woman, with a flushed face and dry skin; much emaciated, weighing only 7 st. She had no symptoms of dyspepsia; her bowels were regular. She had a large cystic goitre, which she had had since puberty. Her pulse was quick, 144; physical signs normal. Urine 1035, loaded with sugar. She had to rise three or four times each night to pass water.

Case 18.—*Diabetes Mellitus—thirst—polyuria—intermittent glycosuria—rheumatic pains—amblyopia.*

George B., aged 28, was first admitted on July 24th, 1886, complaining of lumbar pains, thirst, and polyuria.

History.—The last two symptoms had existed for three months, but the pain for only three weeks. At Christmas he had *rheumatic* pains in his feet and knees, but was not confined to bed, and had never been well since. He could remember no other illness, or any injury. His family history was good, and he knew of no other case of diabetes among his relatives. He had been under treatment by Dr. Foxwell as an out-patient for three months before his admission. His urine averaged over 200 oz., sp. gr. 1040 ; urea 0·9 per cent. ; sugar 8·0 per cent. He had lost 14 lbs. in weight. He was sent to the Suburban Hospital and afterwards re-admitted from there on Sep. 26th of the same year. He then complained chiefly of weakness.

Condition on Admission.—He was a fairly well-built and well-nourished man, with a pale and anxious face. He weighed 8 stone 9½ lbs. There was slight ptosis of the right eyelid which had always existed. His skin and joints were normal. Patellar reflexes present. Tongue clean. Bowels confined. No abnormal physical signs. Pulse 66, Temp. 98, Resp. 24. On ordinary diet he passed over 100 oz. of urine, but on being put on diabetic diet the quantity fell to 50 to 60 oz., while the sugar fell from 8 per cent. to 1·1 per cent. There was generally a faint haze of albumen present.

Progress of Case.—He was treated with Clemens's liquor, and under this treatment the urine kept low, the sugar was never more than 4 per cent., often much less, and he gained weight. On his discharge, Nov. 2nd, he weighed 8 st. 12¼ lbs. He was ordered to attend as an out-patient.

After leaving the Hospital he continued to attend as an out-patient, continuing his diet as well as he could, and going on with cod liver oil and iron in the shape of the sulphate in pills.

Nov. 23rd. Urine, sp. gr. 1026 ; no sugar.

Dec. 7th. Urine, sp. gr. 1017 ; no sugar. Is eating brown bread ; ordered to eat potatoes in moderation.

Jan. 18th. Urine, sp. gr. 1020 ; no sugar.

Jan. 25th. Urine, sp. gr. 1016 ; no sugar.

Feb. 22nd. Urine, sp. gr. 1030 ; loaded with sugar.

March 22nd. Urine, sp. gr. 1025; a trace of sugar.

May 17th. Urine, sp. gr. 1026; no sugar. Is eating no potatoes, but brown bread.

May 24th. Urine, sp. gr. 1027; loaded with sugar.

June 9th. Urine, sp. gr. 1027; no sugar.

June 28th. Urine, sp. gr. 1028; no sugar.

July 26th. Urine, sp. gr. 1018; no sugar.

Aug. 23rd. Urine, sp. gr. 1032; a trace of sugar.

From this time he continued to have a trace of sugar in his urine up till Jan. 3rd, 1888, but it was only absent on that one occasion. He was seen about every fortnight during all this time. His general condition remained unsatisfactory. He had lost almost 5 lbs. in about eighteen months, and looked pale and worn. When examined in October his liver dulness was found to extend down to the level of the umbilicus.

The next occasion on which sugar was absent was in August, 1888. He had been drinking bitter beer for the last six months.

On Nov. 13th the urine had a specific gravity of 1035, but contained so little sugar that it was analysed, and 4·5 per cent. of urea was found to be present. He complained about this time of bleeding from the gums, which was stopped by a krameria mouth wash.

On Dec. 4th he had an eruption of lichen scrophulosorum on the chest, which was soon cured by ung. hydrarg. ammon.

Dec. 18th. Urine, sp. gr. 1020; no sugar.

Jan. 1st, 1889. His urine contained sugar, and continued to do so in varying amounts. In February he complained of a dry, brown scaly eruption on his scalp, which was greatly improved by washing with borax lotion. He began to complain of dimness of vision, and on May 28th he was sent to the Eye Hospital for a complete report upon his vision, which was as follows:—

V. in R. eye is $\frac{5}{30}$ when corrected for error of refraction; V. in L. eye is $\frac{5}{20}$ badly. Both fundi are normal, and media clear. He smokes over 4 oz. of black twist tobacco a week, and has central scotoma for red and green, the defect arising no doubt from toxic amblyopia. Sees better in twilight, etc.

Case 19.—*Diabetes—gangrene of both lower extremities—successful amputation of necrosed parts.*

Joseph F., 64, tailor, was admitted Feb. 20th, 1889, with gangrene of right foot.

History.—Father died at 86; cause not known. Mother was killed. Three brothers alive; one brother died young. No history of illnesses. About five years ago came under Mr. Chavasse with what he called "corns" on the second digit of each foot. That of the left foot got well, and the toe on the right foot was amputated. At that time he had no suspicion of any illness. He had not complained of thirst or of weakness; but on coming to the Hospital he was told he had diabetes. For some time he was only slightly troubled with sores on his toes, and about eighteen months ago he began to be thirsty. Twelve months ago last March all the toes on the left foot were taken off in the General Hospital, and he then went out to the Jaffray Hospital, leaving there in July. In January of this year the toes on the right foot began to be affected, and in February he came into the General Hospital again, and the third and fourth toes were amputated at different times. In April the ankle began to be bad, and on June 15th the leg was amputated. Latterly his health has not been so well. It is only in the last twelve months that he has noticed he has been passing a large amount of water. Has had no cough. No history of boils or other skin diseases.

Whilst the urine was measured from April 3rd to 21st he was passing from 66 oz. to 109 oz. in twenty-four hours, with an average of about 90 oz.

Urine Report:—

Feb.	25.	--	1036.	Ac.	Urea	1·4	p.c.	Sugar	8·3	p.c.	Acetone none.
Mar.	29.	—	1036.	„	„	·8	„	„	5·5	„	„ present.
April	1.	70 oz.	1034.	„	„	·5	„	„	5·2	„	„ „
„	6.	88 oz.	1030.	„	„	—	„	„	5·5	„	„ „
„	15.	80 oz.	1036.	„	„	—	„	„	5·0	„	„ —
June	17.	—	1033.	„	„	1·0	„	„	6·2	„	„ —

Case 20. — *Diabetes Mellitus—polyuria—sugar fluctuating greatly in amount—hard lump at root of penis—knee jerks present—disappearance of sugar on diet and opium—failure of jambul and antipyrin.*

James A., 61, medal maker, attended as an out-patient on Oct. 29th, 1889, complaining of passing nine or ten pints of water. He weighed 10 st. 9½ lbs. His knee jerks were present. On anti-diabetic diet and extract of opium (gr. i. three times a day), his urine diminished in quantity, but he lost weight, and by the following August weighed only 10 st. 1 lb., although the urine had come down to three pints, and was free from sugar. He began to eat whole-meal bread and other farinaceous food, and rapidly regained his weight, being 10 st. 11 lbs. on Sep. 27th, when he was passing a quart of water free from sugar. After this he continued to gain weight, but the sugar returned.

On Feb. 21st, 1888, he complained of a painless, hard lump at the root of the penis.

In August, 1888, he had a little pain in the right side, and friction was heard. This passed off.

In March, 1889, he weighed 11 st. 4 lbs., was passing about a quart of water daily, sp. gr. 1028, containing a little sugar; the lump at the root of the penis had gone away. He was taking extract of opium (gr. i.) three times a day. He was ordered two of Christy's jambul perles three times a day, and in the course of the next three weeks these were increased gradually to four three times a day, with the result that the urine rose to three pints, and became loaded with sugar. He was then given antipyrin (gr. x.) three times a day with no better result.

Case 21.— *Diabetes Mellitus—cured by diet and opium.*

Henry H., aged 57, collier, attended as an out-patient on Jan 4th, 1887, complaining of thirst and of passing a large quantity of water, seven pints daily. He was put on extract of opium (gr. i.) three times a day, and anti-diabetic diet. By March 22nd the quantity of urine had fallen to two and a half pints, sp. gr. 1015, and the sugar had disappeared. He was allowed to take modified diet, viz., bread and potatoes, and on April 19th the absence of sugar was confirmed.

Case 22.—*Diabetes Mellitus—polyuria—thirst—albuminuria—pruritus ani—lichen on chest and back—disappearance of sugar.*

Mr. Frederick W. W., aged 56, consulted me first on March 31st, 1883, being sent to me by my friend Mr. Eales, who had discovered sugar in his urine. He had been passing too much water for five months, and suffering from thirst. He had had gout several times. Weighed 13 st. 2 lbs.; had not lost flesh. Tongue clean; appetite good; bowels regular. Fundus of eyes normal. Urine, 1028, contained sugar and a trace of albumen. On anti-diabetic diet, using toast moderately, and extract of opium (gr. i.) three times a day, his urine was diminished by two-thirds, its specific gravity came down to 1020, but there was some loss of flesh—by May 5th he had lost 5 lbs. By June 16th the sugar had disappeared, and did not return at all after June 30th. When last seen, Aug. 18th, 1884, he weighed 13 st. 3 lbs., his urine amounted to two quarts daily; it was free from sugar, and he felt very well.

Case 23.—*Diabetes Mellitus—thirst—polyuria—no gout—disappearance of sugar with diet aud opium.*

Mr. William L., aged 60, consulted me on August 31st, 1886, complaining of *frequent and scanty* micturition. This had been worse for two or three months, but had occurred at intervals for the last two or three years. He had never had gout, nor was there any gout in his family, He weighed 14 st. 5 lbs., and had not lost weight within the year. He was obliged to get up very often at night to make water; his total urine was about three quarts in twenty-four hours, amber, faintly acid, 1029, loaded with phosphates and sugar. He was very thirsty, and drank claret and claret and water latterly. Formerly he had been in the habit of drinking beer. Tongue deep red, rather furred. Had formerly suffered from indigestion. On anti-diabetic diet, with Vichy water (half-pint) twice daily with lemon juice, the quantity of his water diminished, his thirst was allayed, and he rested better at night, while during the day he made water less frequently. The urine was however still loaded with sugar. He had been getting gluten bread. He was ordered extract of opium (gr. i.) every night at bedtime. A fortnight later he had lost three pounds in weight since his first visit, but on the other hand his urine was 1015, free from sugar, and he could lie in bed all night without being disturbed. He was complaining of costiveness and drowsiness, so the opium was stopped and a euonymin and aloes pill substituted. This gentleman is still alive and fairly well, but has not consulted me since.

Case 24.—*Diabetes Mellitus—rheumatic pains—polyuria—thirst—emaciation—improvement on diet and opium—diarrhœa—failure of jambul.*

Mary P., aged 53, attended as an out-patient on May 4th, 1886, complaining of pains in the back and legs, thirst, loss of flesh, and of passing a great quantity of water. She had been ill four years. The quantity of water in twenty-four hours was about nine pints, sp. gr. 1030, loaded with sugar. She was treated by anti-diabetic diet, extract of opium (gr. i.) three times daily, and allowed saccharin as a sweetening agent. On this treatment the quantity of urine fell rapidly to four pints in twenty-four hours, and thirst was lessened. The following year she began to suffer from repeated diarrhœa. Jambul was tried as a substitute for opium with some temporary rise in the quantity of water. The diarrhœa had to be kept in check by the use of chalk and opium; the urine remained about the same, four pints, sp. gr. 1039, when last seen in September, 1887.

Case 25.—*Diabetes Mellitus—polyuria—thirst—albuminuria—gangrene of toes—knee jerks diminished—improvement on diet and opium.*

William F., aged 57, attended as an out-patient on Oct. 26th, 1886, complaining of passing three to four quarts of water and of getting up very frequently at night for this purpose. He had been ill three years, when he got gangrene of three toes on the right foot, and his urine was found to contain sugar. He suffered from thirst; his urine was pale, clear, 1022, and contained a cloud of albumen and a large quantity of sugar. The knee jerks in both legs were almost absent. On anti-diabetic diet and opium he lost his thirst, he was not disturbed at night to make water, and the quantity of this secretion fell to 90 oz. daily, or little more than two quarts, of sp. gr. 1020. He was not seen after Jan. 18th, 1887.

Case 26. — *Diabetes Mellitus—polyuria—thirst—wasting—duration three weeks—improvement on diet and opium.*

Emily W., aged 23, married, attended as an out-patient on Dec. 14th, 1886, complaining of great thirst for the past three weeks, of passing a large quantity of water for a month or more, and of wasting. She had been married thirteen months, and six months previously was confined, the baby living only a month. She had become regular again. Her father was dead; he drank too much, and died of liver disease. Her mother died in child-birth. She had only one brother, who was alive and well. Her urine was pale, slightly turbid, acid, 1032, loaded with sugar, and slightly phosphatic. She weighed 7 st. 1 lb. Under treatment by anti-diabetic diet, and extract of opium (gr. i.) three times a day, the quantity of urine diminished, thirst improved, but the sugar remained abundant. On Feb. 1st, 1887, she ceased to attend.

Case 27. — *Diabetes Mellitus—temporary disappearance of sugar under dietetic restrictions and opium.*

George E., aged 61, attended as an out-patient on Dec. 6th, 1887, complaining of thirst and of getting up a dozen times at night to make water. Quantity of urine five pints, pale, clear, 1027, contains a moderate quantity of sugar. Weight of patient 218 lbs. He had been ill two years. On anti-diabetic diet and extract of opium (gr. i.) three times a day, by May 8th the quantity of water had fallen to three pints, of sp gr. 1018, free from sugar. He then began to eat bread freely, and the sugar returned, though the quantity of urine remained low. Jambul and antipyrin were tried without effect on the sugar.

Case 28. — *Diabetes Mellitus—wasting—polyuria—thirst—improvement on diet and opium.*

Benjamin W., aged 53, was admitted as an out-patient on Dec. 13th, 1887, complaining of loss of weight, thirst, and of passing a large quantity of water. He used to weigh 12 st., and then weighed only 9 st. 10 lbs. He passed nine and a half pints of water, sp. gr. 1038, loaded with sugar. On opium and modified diet—for he was not very strict, and would drink a little beer and eat a good deal of brown bread—his urine diminished, and on the last occasion he was seen (Nov,. 1888) he weighed 9 st. 13 lbs., and was passing only two quarts of water, of sp. gr. 1034, though it was still loaded with sugar.

Case 29.—*Glycosuria—no polyuria—no thirst—no loss of weight.*

Arthur M., 32, metal roller, came to me in July, 1887, to be examined for life insurance He was a very powerfully built man, 5 ft. 6 in. in height, and weighing 12 stone. There was no history of injury or syphilis or any family history of diabetes. His knee jerks were present. There was no other evidence of disease but his urine, which was of sp. gr. 1029 and was loaded with sugar. The quantity was not increased. A second sample, examined a fortnight later, was just the same. He was sent again to me in May, 1888, when I found no loss of weight had taken place, and no thirst or polyuria had come on, but the urine was still loaded with sugar, sp. gr. 1023.

PERISCOPE.

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THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Hydroxylamine in Skin Disease.—Fabry (*Therapeutic Gazette*, Sept. 16, 1889) recommends the use of hydroxylamine in chronic psoriasis, in the following formulæ:—

Hydroxylamine muriate, 2 to 5 parts
Alcohol, 100 parts
Chalk, sufficient to neutralise.
Mix and filter.

Hydroxylamine muriate, 1 part
Water, 1.000 parts
Chalk, sufficient to neutralise.
Mix and filter.

Its advantage over chrysarobin and pyrogallic acid is that it is colourless

Hydroxylamine was discovered by Lossen in 1865. Its formula is $2H_2O+NH_2OH$, and in physiological action it is closely allied to pyrogallic acid, chrysarobin, and allied substances.

Relief of Strangury.—Dr. Luton, of Rheims, having highly recommended tincture of ergot internally for the immediate relief of strangury, we were recently induced to try a hypodermic injection of ergotin for the same purpose, inserting it in the fossa just behind the great trochanter. The results were all that could be desired. The patient had had a hypodermic injection of morphine about an hour previously, and was considerably under its influence when we were applied to for relief.—*National Druggist*, August 15th, 1889.

Coronilla in Heart Disease.—Coronilla scorpioides, Nat. ord. Papilionaceæ, is widely distributed in the southern parts of

France. In 1886 Dr. Cardot announced that this drug arrests the heart in systole, and recently this statement has been confirmed by Schlagdenhauffen, Gley, and Spillman. A glucoside named coronillin has been isolated, of which the toxic dose is said by Schlagdenhauffen to be three-quarters of a grain for a man weighing 120 lbs. ; nevertheless it is stated by Spillman that from two to three grains must be administered to produce any therapeutic effect. This divergence as to dose must cause some delay in the introduction of the drug into practice.—*Therapeutic Gazette*, Sept. 16th, 1889.

Senna Pods as a Laxative.—D. Macfarlane (*Lancet*, July 27th, 1889) recommends the use of an infusion of senna pods, from three to twelve in a wineglassful of cold water, as a trustworthy and tasteless aperient. He has prepared a fluid extract, of which the dose is from half a drachm to a drachm in a wineglassful of cold water at bedtime.

Cocaine in Diabetes. Thomas Oliver. (*The Lancet*, 1889, Vol. II., p. 735.)—After reference to the disappearance of glycosuria in diabetes during the presence of pyrexia and to the apparent cure of a diabetic gentleman by an attack of pneumonia, the use of cocaine as a pyrogenic remedy was suggested. The illustrative case was a cabinet-maker, aged 43, who was insane, ataxic and diabetic. Under cocaine his bowels acted better, his noctural delusions disappeared, and he gained weight, while the urine had fallen from 12 or 13 pints to 4 or 5. On omitting the cocaine (gr. ¼ three times a day) the urine rose at once, but at this stage he unfortunately caught cold, got worse and died.

Exalgine in Neuralgia. Dr. Frederick Peterson. (*New York Medical Record*, Sep. 14th, 1889.)—This remedy originally prepared by Brigonet, is a derivation of benzine, and its proper chemical name is orthomethylacetanilide. It has been recommended by Dujardin-Beaumetz for neuralgia, diabetes, &c. Peterson gives eight cases of neuralgia in which it was very successful in doses of two grains every four or six hours. It was given in pill or cordial.

Treatment of Pityriasis Versicolor by Brushing.—Dr. Joseph Drzewiecki (the *Satellite*, September, 1889).—The stubbornness of this affection and the annoyance occasioned by its treatment with ointments are well known. Having been accustomed for some years to advise my patients suffering from any chronic pulmonary disorder to rub the chest night and morning with a common cloth-brush, I noticed that, when pityriasis versicolor was present, this affection disappeared after ten days or two weeks. This occurred even in persons in whom the skin was dry, in which case it became smooth, shining, and elastic.

Beta-Naphthol.—John V. Shoemaker (*Therapeutic Gazette*, Oct. 15th, 1889).—This drug is a powerful antiseptic. It is used internally in gastric and intestinal disorders in doses of from ½ to 5 grains; in constipation, intestinal catarrh, pharyngitis, bronchitis, diphtheria, erysipelas; malarial, scarlet, and enteric fevers; in the diarrhœa of infants, combined with bismuth. It is administered in tabloids, or in milk, glycerine, and mucilage; it is only slightly soluble in water. Externally it is used in skin diseases, but is irritating; a five per cent. soap is useful in some chronic cases; and the drug is useful in scabies, phthiriasis, chronic eczema, psoriasis, acne, etc. It may be dusted on syphilitic sores, cancer, and lupus, or applied in purulent ophthalmia in conjunction with cauterisation by nitrate of silver. Injections of it may be employed in gonorrhœa, vaginitis. One part of naphthol combines with two of camphor to form a syrupy liquid which possesses a stimulating and sedative local action. Ointments composed of this substance (5–20 grains to the ounce) are valuable in many skin diseases. The substance itself may be applied to the throat in diphtheria, to wounds, excoriations, boils, etc.

Rhus Toxicodendron.—John Aulde (*Therapeutic Gazette*, Oct. 15th, 1889).—Rhus toxicodendron, poison ivy, is a plant indigenous to North America, where it is a popular remedy for rheumatism. It is used in the form of tincture, the dose being 1 to 5 minims or more. The tincture, according to Aulde, is prepared with 50 parts of the fresh leaves to 100 parts of alcohol, one part of this tincture being further diluted with nine parts of dilute alcohol. He thinks the fluid extracts in the market are very uncertain in their action, and he fears that the virtue of the leaves may be lost in the process of drying. He recommends the drug in chronic rheumatism, neuralgia, sciatica, chronic cystitis, and hæmorrhoids.

Bromide of Rubidium and Ammonium.—Laufenauer (*Wiener Med. Wochenschr.*, July 13th, 1889).—This drug is suggested as a remedy for epilepsy. It appears to possess some of the power of the other bromide salts; but there is no evidence that it is better or even as good, while it is very expensive.

Chloralamide. — Hagemann and Strauss (*Berliner Klin. Wochenschr.*, No. 33, 1889).—Chloralamide is a substitute for chloral, having the advantage that it does not depress the circulation. The dose should not exceed 45 grains. It is most useful in cases of simple insomnia.

MEDICINE AND GENERAL PATHOLOGY.

BY ROBERT SAUNDBY, M.D., F.R.C.P.

An Anomalous Cardiac Murmur.—W. T. Gairdner (*Amer. Jour. of the Med. Sciences*, July, 1889, *Med. Chronicle*, October, 1889).—The late Dr. Austin Flint recognised the occasional occurrence of a short presystolic murmur in certain cases of free aortic regurgitation without mitral disease. ("Principles and Practice of Medicine," 3rd edition, p. 325.) A paper on this murmur, by Dr. Bramwell, was contributed to the March number of the *Amer. Jour. of the Med. Sciences*, which elicited from Dr. Gairdner the notes of a similar case in which he admits the auriculo-systolic character of the rhythm of the murmur. Dr. Graham Steell, in noticing these papers in the *Medical Chronicle*, admits the occurrence, and claims to have referred to it in a clinical lecture in 1883. It closely resembles a badly developed presystolic murmur, and is accompanied by a slight short thrill.

The Pasteur Method.—The *Journal de Médecine de Paris* for 6th Sept., 1889, contains details of three cases of death from rabies following the treatment of M. Pasteur. Two of these cases had been treated in Paris, the other in Russia. The last case is especially notable, as out of many children bitten by the same dog this was the only one treated by the Pasteur method and the only one which has shewn any sign of rabies, while the bite was in this case through clothing, another child having been bitten in the bare arm, who, like all the others who were not inoculated, remains quite well.

Slow Pulse.—D. W. Prentiss, M.D. (*Boston Med. and Surg. Journal*, vol. cxxi., p. 303.)—Patient was a white male, aged 54, a carpenter by trade, of temperate habits, but an habitual smoker of tobacco. He had been building a house in a malarial locality when he began to have "weak spells," in which the only objective sign was slow pulse. He fainted on several occasions. Between December 13th, 1887, and January 20th, 1888, his pulse ranged from 22 to 76 per minute. He then got better and resumed work, being advised to give up tobacco. But he relapsed, and was bad from October, 1888, to April, 1889, when he improved, to relapse again in August. His pulse was in these attacks as low as 12 and 15; his temperature was subnormal—94·5° to 97°. He again improved, and was well enough to be shewn at the meeting of the Association of American Physicians. He got most benefit from bromide of ammonium in fifteen-grain doses three times a day, and extra doses when threatened with a paroxysm. Digitalis, convallaria, and strophanthus made him worse. Nitroglycerine at first made him better, then worse. Faradism—one electrode over the heart and the other at the back of the neck—seemed to be of decided benefit.

In explanation of this case the author is inclined to the view that it was the effect of tobacco poisoning; but he omits to say to what extent the advice given to abstain from tobacco was followed, and whether the relapses were in any way connected with a renewal of the habit.

Chronic Oxalic Acid Poisoning.—J. Barker Smith (*Lancet*, September 21, 1889, p. 584).—An interesting case which has lately come under my care has increased my interest in oxalates, and made me consider another mode of their origin in the body in addition to idiopathic formation and ingress by the alimentary canal—viz., by the lungs,—and this, perhaps, not always wholly immediately, but indirectly through the agency of micrococcous forms. Such an experience is probably unrecorded, as the process known as the platinum process has only lately been in use, and my patient was engaged in working the process as an elegant addition to photographic art. He complained of a cough which he had had for six months, and spat blood for about two months before. He was anæmic, and complained of *general weakness*, *pain in the back*, and over the region of the heart. His temper was irritable. Sometimes he was absent in mind or self-conscious. He had sensations of heat in his head, slight giddiness, and flushing of cheeks frequently. There was no sweating at night or loss of flesh. Physical examination revealed no signs of phthisis; his heart beat irregularly and feebly, and there was a hæmic murmur. The sputa were loaded with small fungus cells, but contained no bacilli. The urine contained abundant minute crystals of calcic oxalate. He had conjunctivitis, which he had also noticed in his fellow-workers. On visiting his dark chamber, brilliant crystals of potassic oxalate glittered like small diamonds everywhere—on the floor, shelf, and bottles. The potassic oxalate is used in the process in hot saturated solution. It may be mentioned that Nägeli found that no fungus grew in oxalate of ammonia and oxalic acid except on the addition of sugar.

Post-Mortem Sweating.—By John A. Cones, M.R.C.S., L.R.C.P., &c., (*The Lancet*, 1889, vol. i., p. 1027).—The patient, a male aged forty-two, had been suffering from albuminuria. The albumen never exceeded one-fourth. The urine showed no casts, but abundant urates; there was no dropsy or ascites. Ten days before death he was seized with uræmic coma and left hemiplegia, which last persisted to the end. The temperature was normal until the last few days, when it was considerably higher, ranging from 102° to 104°, and so persisting to within six hours of death, when it steadily sank. All treatment to produce diaphoresis gave very slight and unsatisfactory results; and the skin, though not absolutely dry, was destitute of sweat to any extent during the earlier days of his fatal attack. Hypodermic injections of pilocarpine were given on four occasions, the dose being gradually increased; the last injection (one-third of a grain) was given three days bofore death; this produced a fair amount of sweating for about twenty minutes, but was not repeated on account of the excessive bronchial secretion it on this occasion gave rise to. Forty-eight hours, however, before death the patient began to perspire profusely, and this continued without any interruption to the very end, even when the surface temperature was decidedly subnormal. The body, as usual, was washed and laid out on the bed, and four hours afterwards was removed thence to a bier, nothing unusual being noticed at the time of removal or before. When, however, the body was seen next morning—sixteen hours after death—it was at once noticed that the sheets and pillows on which it lay were absolutely saturated with sweat, and the skin felt moist and clammy; this continued for at least eight hours, but thirty hours afterwards it had apparently ceased and the sheets &c. were then drying. It was also noticed that post-mortem discolouration was well marked even when the body was first seen.

The explanation which suggests itself to my mind, says Mr. Cones, and which I venture to give here, is this. The patient was sweating freely up to the time of his death, and we may therefore suppose that the glands and lymph spaces surrounding them were fully charged with fluid at the time. If so, then, when the rigor mortis began, the contents of these glands and lymph spaces may have been mechanically pressed and filtered out. For Dr. Brunton, in a valuable paper on the Pathology of Dropsy, tells us that the beautiful experiments of Claude Bernard on the influence of irritation of the chorda tympani on the secretion of the submaxillary gland shew that the secreting cells do not derive the materials for their secretion directly from the blood, but indirectly through the lymph spaces which surround the alveoli. These spaces form, as it were, reservoirs —so much so, indeed, that if care be taken to fill them during the experiments, the gland will continue to secrete even after the head is removed from the body.

On Ehrlich's Diagnostic Sign of Enteric Fever.—By Howard Taylor, M.D. Lond., F.R.C.S.—In 1882 Ehrlich announced that the urines of enteric patients gave a characteristic reaction.

His test solutions are as follow:—*A*, a saturated solution of sulphanilic acid in dilute (1 in 20) hydrochloric acid; *B*, a ·5 per cent. solution of sodic nitrite in distilled water. (Both of these solutions must be fresh, especially the latter, which cannot be depended on for more than a week at the longest. When they are mixed, of course, a solution of sulphanilic acid containing free nitrous acid is produced, which is the actual test solution; but on account of the extreme instability of the latter, the two solutions must be mixed fresh at each testing.) In using the test, about 25 parts of *A* are added to 1 of *B*. Mix with this an equal bulk of the urine to be examined, and render alkaline with strong ammonia.

With normal urine the only change which ordinarily occurs is a mere deepening of its colour to a sherry or vinegar brown. In conditions of pyrexia other than typhoid fever the colour also deepens, but still remains merely brown, although usually it becomes of a darker tint than the average colour given by normal urines. But when the test is applied to the urine of a patient with enteric fever the colour rapidly turns red, the exact tint it acquires varying from the yellowish red of bichromate of potassium solution, though ruby red, to a rich port wine colour. On shaking the test tube a froth is produced, which has usually a delicate pink colour that is very characteristic. It is not always given until the latter part of the first week, and after the morning temperature has once reached normal it may cease. Still the reaction is present during the greater part of the febrile period in every case. Unfortunately it is met with in other diseases; a slight reaction is seen in some healthy urines, and it was observed commonly in Bright's disease and with other albuminous urines, in valvular disease of the heart, in chorea, in measles, in advanced phthisis, and in acute rheumatism. It was absent in acute tuberculosis, pneumonia, diphtheria, etc.; but, in these last two, other observers have met with it.—*The Lancet*, May 4th, 1889.

Œdema as a Diagnostic Sign in Carcinoma of the Stomach.—M. C. Baert, of Brussels, writing in *La Clinique* on cancer of the stomach, calls attention to the frequency with which œdema of the ankles is met with in this affection after it has lasted a few months—a diagnostic aid which is by no means new, but is, he thinks, in danger of being too much overlooked at the present day. He gives a number of cases recently occurring in the various hospitals in Brussels in which œdema was present. In one of these cases the œdema came on as early as three months after the first symptoms of the affection made their appearance; in two other cases it was noticed after four months; but in most of the other instances it was delayed till the lapse of from six months to a year after the onset. In one case, where there was no evident cause to which to attribute the loss of appetite and the wasting complained of by the patient, Prof. Carpentier, noticing some œdema of the ankle, diagnosed carcinoma of the stomach, and found his diagnosis confirmed by the appearance a month afterwards of all the usual signs of the affection. Several of the cases presented a marked increase in the nitrogen excreted in the urine. With regard to the deficiency or absence of hydrochloric acid in the stomach in cancer of that organ, M. Baert admits that it is usual, but agrees with Wolff and Ewald in saying that this sign is by no means peculiar to cancer, as it is found in other gastric affections.—*The Lancet*, April 13th, 1889.

Arterial Changes in Phthisis.—The morbid changes in the arterial coats have recently been studied in sixteen cases of phthisis by Dr. N. Sh. Ippa of St. Petersburg. In all the cases some at least of the arteries were affected, the coronaries of the heart invariably so. The coats which were found to have undergone morbid change were the intima and the middle coat. Connective tissue was found in the intima of arteries where it does not in the normal condition exist at all—as for example in the brachial, femoral, and coronary arteries. This is due to an inflammation of the coat, which has been described by Dr. R. Thoma as "diffused and nodose chronic fibrous endarteritis." In arteries where there is connective tissue in the intima, its amount was found to be very materially increased. The middle coat was affected in a somewhat similar manner, the muscular elements being atrophied and connective tissue being formed. The vessels presenting the most extensive morbid changes were the coronaries, and those least affected were the brachial, femoral, and more particularly the pulmonary arteries.—*The Lancet*, April 13, 1889.

Addison's Disease.—At a recent meeting of the Montpellier Academy of Science (*Gaz. Hebd. des Sci. Méd.*, No. 11) M. Baumel related two cases of Addison's disease. The first, observed in 1880, was that of a man 36 years of age who had spinal curvature, and in whom the bronzing consisted in an increase of the normal cutaneous pigmentation. The second, observed in 1888, was that of a woman 65 years old, who exhibited marked bronzing all over the trunk, but the face, hands, and feet were exempt. In the first case there was considerable enlargement of the suprarenal capsules and numerous foci of caseation. In the second, the capsules were atrophied and in a state of fatty degeneration, which occurred in other of the abdominal viscera. The change in the capsules was especially marked in one of the two zones of pigmented cells separating the medullary from the cortical substance, and a cavity formed here by the degeneration was the seat of a hæmorrhagic effusion. M. Baumel expressed his belief in a chromatic nervous apparatus, and in the function of the adrenals being to supply the material for pigment, in the form of the chemical body discovered by Vulpian. This substance, which reddens in contact with air and blackens with the persalts of iron, would, after contributing perhaps to the formation of hæmoglobin, go to form a pigment in the cellular elements. In connection with this subject it may be added that at the meeting of the Paris Academy of Medicine on the 26th ult. M. Cornil read the report of a committee, consisting of MM. Jaccoud, Constantin Paul, and himself, on a case of Addison's disease with lesions of the posterior spinal nerve roots, communicated to the Academy by MM. Kalindero and Babes. These observers found in this case a chronic sclerosis of the cord mainly confined to the vicinity of these nerve roots, with a neuritis extending specially along the latter, the lesions being most marked in the lower dorsal region. The committee reported that no general conclusion could be drawn from a single fact, but considered this observation to meet the desideratum expressed by M. Jaccoud in his Dictionary—viz., that hitherto no anatomical lesion characteristic of Addison's disease had been found.—*The Lancet*, April 13th, 1889.

NERVOUS DISEASES.

BY C. W. SUCKLING, M.D. LOND., M.R.C.P.

The Pathology of the Central Nervous System in Exophthalmic Goitre. By W. Hale White, M.D., *British Medical Journal*, March 30, 1889.—Dr. Hale White records a very interesting and instructive case of Exophthalmic Goitre, in which the autopsy disclosed distinct changes in the central nervous system. The superior cervical ganglia and the cervical sympathetic cords were healthy, as was also the spinal cord. Sections of the medulla oblongata disclosed numerous hæmorrhages immediately under its posterior surface, extending from the middle line as far out as the restiform bodies. The hæmorrhages were almost entirely limited to the posterior superficial part of the reticular formation, and they existed in all sections up to the lower part of the aqueduct of Sylvius. The hæmorrhages were not old, but probably did not take place immediately before death. Dr. White believes this to be the first recorded case in which changes in the central nervous system in association with exophthalmic goitre have been found, and which could also in any way account for the disorder. The old and favourite theory that the disease is due to lesion of the cervical sympathetic must be discarded, for this portion of the nervous system is often found to be quite healthy, or if changes are found to be present, they are such as are often present in other maladies also. The association of exophthalmic goitre with other nervous diseases, *e.g.*, epilepsy, neuralgia, migraine, ophthalmoplegia, mania, general paralysis, melancholia, etc., and the fact that in this disease there is a liability to sudden death, support the theory that the disease is due to alterations in the central nervous system. Minute hæmorrhages in the floor of the fourth ventricle will cause sudden death, and Dr. White considers that all the symptoms of exophthalmic goitre might be produced by such a lesion.

Gerlier's Disease, or Paralysing Vertigo. — (*Le Progrès Médical.*)—Dr. Eperon reports two cases presenting the usual disorder of vision, ptosis, diplopia, temporary amblyopia, and ophthalmoscopic lesions. The general symptoms comprised slight headache and evidence of paresis in the muscles of the forearm. The ptosis and diplopia were both intermittent. Dr. Eperon considers that the lesion is a meningeal hyperæmia especially localised in the occipital region, where the known cortical centres of vision and of the movements of the eyelids are situated. This hyperæmia is mostly temporary and intermittent, but it may often become permanent enough to react on the circulation of the optic nerves.

Charcot on Suspension in Locomotor Ataxia.—(*Medical Press*, April 1889.)—Dr. Prendergast, writing from Paris, corrects a statement to the effect that cases of locomotor ataxia had been completely cured by suspension carried out at the Salpétrière. He states that Professor Charcot does not consider any of the patients he has treated by suspension cured, and that the Professor has little hope that any such method will ever procure the cure of locomotor ataxia. At the same time, suspension does produce amelioration in the following symptoms:—In co-ordination, the sign of Romberg, the sexual impotency, the lightning pains, the vesical troubles, etc., and hence the treatment is very valuable and should be tried for such symptoms; but the word "cure" should be studiously avoided.

Erotic Feelings Preceding and Following Epilepsy.—Dr. Routh, at the British Gynæcological Society, recently read notes of a case in which erotic symptoms preceded epilepsy. The patient was married and had had three children; she had suffered from epileptic attacks for some years. The catamenia lately had been unusually copious, then irregular, and finally ceased. The uterus was very large, and the passage of a sound into it was painful and brought on a fit. He decided to try the effects of the negative electric current to reinduce a menstrual flow; but on the occasion on which he did this she developed strong erotic symptoms and had an epileptic attack, after which she again became aggressively amorous to a lady to whose care she was for two hours consigned. The author pointed out that these were precisely the circumstances under which charges were made against medical men, and that such a situation was full of danger.—*Provincial Medical Journal.*

The Dangers of the Suspension Treatment of Locomotor Ataxia.—Two cases have recently been reported where death was the result of suspension for locomotor ataxia. In both cases the patients had suspended themselves. Suspension should not be employed if there is any heart disease. In no case should suspension be carried out except in the presence of a medical man. The treatment should be practised at intervals of several days, the progress being carefully watched.

Fronto-Facial Asymmetry in Epileptics.—MM. Bourneville and P. Sollier (*Le Progrès Médical*, Sept., 1889) direct attention to the frequency with which a certain degree of want of symmetry in the face and forehead is met with among epileptics. Casts were taken of all epileptics dying at La Salpétrière and Bicêtre. In only one out of thirty cases was there no real asymmetry. The authors incline to the belief that the cranial deformity is directly associated with cerebral deficiency, so that in their view the asymmetry characteristic of the epileptic is practically the index of the lack of cerebral development and not the cause of the latter. Facial asymmetry to a certain slight degree is probably the rule. The observation that the majority of cases of idiopathic epilepsy present "fronto-facial asymmetry" is of considerable interest.—*Lancet*, Sep. 22, 1889.

Brain, Parts xlv. and xlvi., July, 1889.—This volume of *Brain* contains nearly 300 pages of printed matter, comprising many valuable papers. An article by Dr. Gaskell on the Origin of the Central Nervous System of Vertebrates occupies the first twenty pages. Dr. Nothnagel (Vienna) writes a paper "On the Diagnosis of Diseases of the Corpora Quadrigemina." He concludes that ataxia is a constant symptom in lesions of these bodies, and that this symptom depends upon the affection of the corpora themselves, not upon other parts of the brain being implicated. The second circumstance which enables lesion of these bodies to be diagnosed is the appearance of paralysis in the territory of the ocular nerves, especially of the motor oculi. In a given case then in which the signs point to the existence of a cerebral tumour, there are grounds for localising it in the corpora quadrigemina if the following symptoms be present—(*a*) an unsteady reeling gait, especially if this appear as the first symptom; (*b*) associated with this gait, ophthalmoplegia in both eyes, but not quite symmetrically nor implicating all the muscles in equal degree.

Dr. Ferrier contributes a highly instructive paper on "Cerebral Localisation in its practical relations." In mentioning Jacksonian epilepsy he states that a mere irritative lesion does not necessarily imply demonstrable organic disease, and the starting point of the irritation may be elsewhere than in the part discharged. But if following limited spasm paralysis of motion occurs, *i. e.*, if the monospasm give place to a monoplegia, then we may with certainty diagnose organic disease of the Rolandic zone of the opposite cerebral hemisphere. The paralysis is temporary or permanent according to the extent of the destructive lesion.

Dr. Ferrier concludes that the sensory and motor centres do not coincide, and that the anæsthesia sometimes observed in connection with lesions implicating also the motor zone is in reality due to direct or indirect implication of sensory tracts or centres. A hemiplegia associated with hemianæsthesia is a sign of lesion of the internal capsule, or if (as judged by other indications) invading the cortical motor zone, a sign of implication also of the gyrus fornicatus or its connections with the internal capsule. Subcortical lesions of the motor zone produce symptoms not readily, if at all, distinguishable from lesions of the cortex itself. Theoretically on experimental grounds irritative lesions of the subcortical fibres should produce only tonic and not clonic or epileptiform spasms, but practically this is not a reliable test, as these lesions generally cause also cortical irritation and clonic convulsions of the usual type. More frequently however in subcortical than in cortical disease there is an absence of that tenderness on percussion or deep pressure which is so characteristic of lesions of the cortex, though no pain may be spontaneously complained of by the patient.

Lesions of the prefrontal region cannot with certainty be diagnosed from the symptoms of the lesion as such. The irritable dementia not unfrequently observed in connection with such lesions cannot with certainty be distinguished from the general effects of other cerebral diseases, such as tumour, abscess, and the like.

With reference to the success of operative treatment for focal epilepsy, it is not safe to count on a cessation of the fits until at least a whole year has elapsed since the date of the operation without any recurrence. In traumatic epilepsy, unless, besides the mere history of a blow on the head, there is clear evidence of local injury in the shape of a distinct cicatrix or depression and in addition some signs of localised irritation of the cortex at or near the site of injury, trephining is not indicated, and even then the result is doubtful. The prospects of benefit are much greater when, in addition to trephining the skull, the whole of the cicatricial tissue and irritable portion of the brain cortex are completely excised. In all cases of operation for focal epilepsy there should be as complete excision as possible of the whole centre from which the discharge proceeds.

Dr. Marie contributes an article on Acromegaly; Dr. M. Allen Starr, of New York, an article on the pathology of Sensory Aphasia; Drs. Hughes Bennett and Savill an unique case of permanent conjugate deviation of the eyes and head, the result of a lesion limited to the sixth nucleus. Articles upon Chorea Insaniens (Dr. Gay), Peripheral Neuritis (Dr. Handford), Absence of Corpus Callosum, and Katatonia follow; the volume closing with a very exhaustive and instructive article on Cerebral Localisation in its practical relations, by Dr. Charles K. Mills, U.S.

PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY.

BY C. A. MAC MUNN, M.A., M.D. DUB., F.C.S.

Poisonous Effect of Expired Air.—Brown-Séquard and D'Arsonval (*Compt. rend.*, Tome cviii., p. 267-272) have described some experiments which tend to confirm the idea that a volatile pulmonary poison is given off by the breath. They had previously shown the probability of the existence of such a poison in human expired air, and they have now extended their observations to rabbits. These animals were placed in a series of air-tight compartments, so arranged that the air entered at one end of the series and after passing through each compartment in succession, escaped at the opposite end. The animal in the eighth chamber had thus to breathe an atmosphere charged with the products of respiration of the seven others, while that in the first breathed pure air.

Under these circumstances young rabbits die rapidly. Those in the 6th, 7th, and 8th chamber, die in two or three days. The air in the second chamber does not contain 1 per cent. of carbonic anhydride, and that in the last only 3 per cent. In the case of older rabbits the action is not so rapid, and in this case the last chamber may contain 6 per cent. of CO_2. By other experiments, the authors have proved that animals can breathe a greater percentage of CO_2 than this, without inconvenience. When, in the experiments described, the air from the sixth chamber is passed through tubes, containing glass beads moistened with sulphuric acid, the pulmonary poison is removed, but the CO_2 is not absorbed. When the air thus treated is passed into chambers 7 and 8, the animals in these live without any inconvenience, whilst that in the 6th cage dies after a short time. The dead animals exhibit all the symptoms produced by the pulmonary poison, and hence the authors conclude that the poisonous action of expired air is not due to carbonic anhydride, but to a special volatile pulmonary poison.

Diamines (Ptomaines) in Cystinuria. L. v. Udranszky and E. Baumann *(Zeits. f. physiol. Chemie.*, Band xiii. S. 562-594) have had under observation a patient from whom a number of cystin calculi had been removed, and in whose urine subsequent to the operation a considerable amount of cystin continued to be excreted.

At the same time diamines were found in the urine. These diamines belong to the animal alkaloids known as ptomaïnes, and were named cadaverine and putrescine by Brieger. Cadaverine $C_5H_{14}N_2$ is identical with pentamethylenediamine (Ladenburg), and putrescine $C_4H_{12}N_2$ is identical with tetramethylenediamine. These substances were isolated as benzoyl-compounds from the urine, and then separated from each other by their different solubility in alcohol and ether. Cadaverine was more abundant in this urine than putrescine. The daily quantity varied : sometimes they were present in mere traces.

Since Bence Jones *(Proc. Roy. Soc.* xv. p. 73) found an alkaloid in urine, the question has often been discussed whether ptomaïnes formed by putrefaction in the alimentary canal can be absorbed and excreted in the urine, and although no observers except Pouchet *(Compt. rend.*, T. xcviii. p. 1560) have succeeded in isolating such bodies from urine, yet the poisonous action of normal and pathological urine has been ascribed by many to their presence. Stadthagen *(Zeits. Klin. Med.* xv. parts 5 and 6) has, however, shown that normal urine owns its poisonous action to potassium salts. There are no diamines in normal urine or normal fæces, nor can they be found in cases of acute and chronic cystitis, in scarlatina, diphtheria, typhoid, pneumonia, peritonitis or other suppurative disease. The urine and blood of dogs is also free from them.

Brieger has detected them, however, in some putrefactive processes, especially in cultivations of the cholera bacillus, and of the Finkler-Prior vibrio *(Berl. Klin. Woch.*, 1887, No. 44.) The smell of cholera stools is due to pentamethylenediamine. In two cases of cystinuria Stadthagen and Brieger have found diamines in the urine. (*Arch. pathol. Anat.* cxv., pt. 3.) In cystinuria as in cholera they are probably produced by the agency of bacteria. In the fæces of the present case 0·5 gram per diem of these bases was formed, the tetramethylenediamine being the most abundant, whereas in the urine the opposite was the case. This is explained by Brieger's observations, as he shews that when they are produced the penta- is formed in the earlier, the tetramethylenediamine in the later stages. The former is probably produced in the small intestine, absorbed, and excreted in the urine, the latter is formed in the large intestine: hence the reason of its occurrence in the fæces. In the present case there was no increase in the amount of the ethereal hydrogen sulphates, shewing that the ordinary putrefactive bacteria in the intestines do not produce diamines.

The authors suggest that cystinuria may turn out to be an infectious disease. But the bacteria producing cystinuria are different from most pathogenic bacteria in persisting within the body for a long time—in this case for at least a year. The symptoms produced by these diamines are similar to those of cholera (hæmorrhages and necrosis); but the muscular cramps of that disease are probably due to other poisonous alkaloids (toxines of Brieger) not yet isolated. In this case cystin was not found in the intestinal contents.

Estimation of Sugar by Fehling's Solution.—H. Causse (*Bull. Soc. Chim.*, T. l., p. 625-626) advises the addition of 4 c.c. of a 5 per cent. solution of potassium ferrocyanide and 20 c.c. of water to each 10 c.c. of Fehling's solution employed. On adding the sugar solution to the boiling mixture, the potassium ferrocyanide dissolves the cuprous oxide as quickly as it is precipitated and forms a colourless solution, thus rendering the exact point of decolourisation more easily seen and preventing bumping.

Potassium ferrocyanide is said to be without action on hot or cold Fehling's solution. On cooling the liquid obtained, after titration, it turns brown and deposits colourless crystals which have not yet been studied.

The Hypobromite Method of Estimating Urea.—R. Luther (*Zeits. f. Physiol. Chemie.*, Bd. xiii., S. 500-505) calls attention to the fact that in estimating urea by the hypobromite method, part of the nitrogen remains behind in the mixing vessel and does not pass into the collecting tube. Part of this is oxidised to form nitric acid, as Fauconier first pointed out. Another part remains unoxidised, and is present in such a form that on boiling with alkalies ammonia is given off.

In the present experiments Luther finds that at least 3–4 per cent. of the nitrogen of the urea had been oxidised so as to form nitric acid. This source of error may be avoided by adding glucose to the solution of urea, as it reduces nitric acid *in statu nascendi.* There has not been any method found as yet to prevent the loss of the remainder of the nitrogen, which is contained probably either as a cyanate or cyanurate, or as a compound with sodium bromide or bromate, and is driven off as ammonia on heating with alkali. The loss of nitrogen in this way amounts to about 1·5 per cent.

The amount of the losses varies with the concentration, temperature, presence of other substances in solution, etc., rendering the hypobromite method an uncertain one.

Estimation of Uric Acid in Urine.—W. Camerer (*Zeits. f. Biol.*, Bd. xxvi., S. 84-111) describes and compares the different methods of estimating uric acid, such as those of Salkowski, Ludwig, Haycraft, &c., by a series of experiments made upon solutions of uric acid and on urine. As a final result, he advises the following method:—The urine of 24 hours, as fresh as possible and preferably free from deposits, is mixed with a measured quantity of sodium hydroxide solution, containing from 0.4 to 1 gram NaHO to 500 c.c. of water. This precipitates the earthy phosphates, leaving the uric acid in solution. The mixture is then brought to a specific gravity of from 1·010-1·011 by adding water. If the urine is rich in uric acid the dilution must be greater, if poor in it, less. To 300 c.c. of the diluted urine 50 c.c. of magnesia mixture is added. The magnesia mixture is that recommended by Salkowski (*Pfluger's Archiv.*, Bd. v., S. 319), consisting of 1 part of crystallized magnesium sulphate, 2 parts ammonium chloride, 4 parts ammonia (sp. gr. 0·924), and 8 parts water. The precipitate produced is filtered off. The first 30 c.c. of the filtrate is used for washing the measuring glass, the next 175 c.c. for the analysis. The fluid is placed in a beaker containing about 0·5 gram of finely-divided calcium carbonate, and then about 5 c.c. of a 3 per cent. solution of silver nitrate is added. In a few minutes the silver precipitate settles; a little of the clear supernatant fluid is removed and tested with nitric acid to ascertain if it contains silver. The precipitate is then collected on a filter and is prevented passing through the filter by the calcium carbonate; it is washed free from silver and chlorides, and dried. The amount of nitrogen it contains is estimated by Kjeldahl's method, from which the amount of uric acid can be estimated. Camerer finds that in the 24 hours' urine the relation of the nitrogen from uric acid to that in the total extractives is 1 : 7·4. In previous experiments he determined the relation of the total nitrogen to the nitrogen obtained from the urea, and found that the difference was due to substances like uric acid, creatinin, &c., grouped together under the name of extractives.

Influence of Saccharin on Digestion.—Stift (*Bied. Centr.* Bd. xviii., S. 458-460), after calling attention to the fact that saccharin is not capable of being digested, but passes unchanged through the organism, relates experiments on himself by means of which he found that saccharin is slightly purgative and produces loss of appetite. He also tried its action on digestive ferments and found that it delayed the solution of proteids, the greater the amount of saccharin present the more marked its retarding action was. He therefore concludes that saccharin is a substance which interferes with digestion, and must be therefore injurious to health.

Human Bile from a Biliary Fistula.—S. M. Copeman and W. B. Winston (*Journ. Physiol.*, Vol. x., pp. 213-231) have made a series of observations and analyses on bile obtained from a woman who suffered from obstruction of the common bile duct due to a gall stone. Mr. Sydney Jones cut down on the gall bladder, stitched its edges to the wound, and then laid it open. Six or seven ounces of a glairy semi-transparent fluid, free from biliary colouring matter, was evacuated, which contained leucocytes and a few crenated red corpuscles. Although no gall stone could then be detected it was found *post mortem* close to the junction of the bile duct with the intestine. The day after the operation bile began to flow and daily increased after that time. No trace of bile could be found either in the urine or fæces, so that the authors were able to collect the whole of that secreted. They have determined the amount in twenty-four hours for several days, the variation in the flow, and its physical and chemical characters.

One of the most curious points noted was the presence of urobilin in the urine, which in this case could not have had its origin in bile pigment, but must have been a direct metabolite of hæmatin [as the Reporter has proved may be the case *Journ. Physiol.*, Vol. x., pp. 71-121]. Calculating from the quantity obtained it is estimated the normal amount of bile secreted by the liver is about two and a half pints *per diem* for a man of twelve stone.

The rate of flow varies according to the time of the ingestion of food, a rise having generally been noted between one and two hours after a meal. The secretion is not a continuous one, the bile being extruded into the gall-bladder by the repeated peristaltic contraction of the bile ducts.

The colour of the bile was olive-green; biliverdin and not bilirubin being the pigment present in greatest quantity. Putting side by side the results of the analysis of this bile and of normal human bile as given by Frerichs the following is the result :—

Constituents.	*Present case.*	*Frerichs.*
Sodium glycocholate . .	0·6280	9·14
Sodium tauroocholate . .		
Cholesterin, lecithin and fat	0·0990	1·18
Mucus	0·1725	2·98
Pigment	0.0725	
Inorganic Salts . . .	0·4510	0·78
Total solids . . .	1·4230	14·08
Water (by difference) . .	98·5770	85·92
	100·0000	100·00

The low percentage of solids, especially of bile-salts, is accounted for in the manner suggested by Schiff and others—that there is normally a circulation of bile going on between the liver and intestine, "a large quantity, at any rate of the bile-salts which pass into the intestines, being reabsorbed and yet again secreted." This idea is supported by the fact that cholalic acid is found only in very small quantities in the fæces. No such circulation could have taken place in the present case.

Bile from the gall-bladder is always more concentrated than that from a fistula, probably because a portion of the water is reabsorbed during its sojourn in the gall-bladder. Bile is necessary for the assimilation of fat: the fæces in this case contained much undigested fat.

The authors think its purgative action is more than doubtful, and by cultivation experiments they have proved that it is not a true antiseptic. Bacteria grow just as well in the tubes containing bile as in those free from it. The fæces were free from stercobilin, shewing that this is formed from bile-pigments in the intestines. (The nature of the diet is not however described.)

[The Reporter *(Jour. Phys.*, vol. vi., p. 29-31) has described the results of an examination of bile obtained from a biliary fistula, the patient having had cholecystotomy performed upon her for impacted gall stones by Mr. Lawson Tait. In that case no bilirubin was present, the colour of all the specimens being greenish or yellow. The sp. gr. was found to be (for the 24 hours' bile) 1·0065 (in the present case it ranged from 1·0085 to 1·105), and the total solids amounted to 1·4915 per cent., the water to 98·5085. Moreover, it appeared that the chromogen of a urobilin-like pigment was present and that the biliverdin also was (partially at least) present as a chromogen. The above authors do not appear to have seen this paper.]

Amount of Urea in Blood and Muscle.—Gréhant and Quinquaud (*Compt. rend.*, T. cviii., p. 1092-1093) describe the following experiments:—Fifty grams of chopped rabbit muscle were allowed to remain in contact with alcohol over-night, and the latter expressed and evaporated in a water-bath. The residue was dissolved in water, placed in the receiver of a mercury pump, and the urea afterwards estimated by the hypobromite method. The results, compared with those obtained from the blood, are expressed in milligrams of urea per 100 grams substance:—

	I.	II.
Blood	35·1	37·8
Muscle	98·2	107·2

They think urea is formed in the muscles. The muscle of the ray contains fifty times as much urea as that of the rabbit.

REPORTS OF SOCIETIES.

BRITISH MEDICAL ASSOCIATION.
BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

A largely attended meeting was held at the Medical Institute on Thursday, Oct. 10th, the President, Mr. D. C. LLOYD-OWEN, in the chair, at which a resolution, passed by a special meeting of the Council, recommending the invitation of the British Medical Association to hold its annual meeting next year in this city was considered.

The President moved the following resolution :—"That this meeting of the Birmingham and Midland Counties Branch cordially invites the British Medical Association to hold its annual meeting for 1890 in this city during the week beginning Monday, July 28th;" and, in doing so, said it was probably known to most present that, owing to some difficulty in the necessary arrangements, the proposed meeting of the Association in London had fallen through, and that at the recent meeting at Leeds no invitation for 1890 was forthcoming. Under these circumstances the Council of the Branch had been given to understand that the Association would very cordially receive an invitation to hold its annual meeting in Birmingham; and there was felt to be something peculiarly appropriate in the Association turning to Birmingham in any day of difficulty, because this city had seen the birth of the Association, and had been more than any other associated with its growth.

Dr. Wade seconded the resolution, which was carried unanimously.

Sir Walter Foster moved the following resolution :—"That this Branch would respectfully suggest to the Council of the Association the name of Dr. Willoughby F. Wade as President for the year 1890-91."

This was seconded by Mr. Bartleet and carried unanimously.

The meeting then nominated a deputation to attend the meeting of Council on October 16th to convey this invitation to the Association, and appointed a Local Arrangements Committee.

The following member of the Association was elected a member of the Branch :—Mr. A. Max Sully.

Multiple Exostoses.—Mr. Haslam shewed a man, aged 20, who was the subject of multiple exostoses. Ten years ago a large one had been removed from the infra-spinous fossa of his left scapula, and later on another from the front of the right tibia. There were several others situated on his forearms, arms, and legs. In addition to these bony outgrowths there was an arrest in the development of the lower end of the left ulna and the two inner fingers; the radius was much thickened and curved, the forearm being considerably shorter than its fellow.

Foreign Body in Lens.—Mr. Eales shewed a man, aged 28, who had a piece of brass, measuring apparently 3 m. by 1 m., imbedded in the lens of the right eye, its long axis being directed upwards and backwards. Its anterior extremity projected for about half an inch into the anterior chamber at a point just 1 m. outside the centre of the pupil. The iris was intact, and the lens shewed no opacity though nine days had elapsed since the injury. Under atropine, $V = \frac{5}{15}$ with $+ 5{\cdot}5$ D to correct H. The corneal wound was a linear horizontal one of 2½ m. length, situated just opposite the lower border of the undilated pupil.

Abdominal Section.—Mr. John W. Taylor read a review of 84 cases of abdominal section on women. Eight of these were fatal, giving a mortality of 9·5 per cent. No less however than five of these were operations undertaken during conditions essentially fatal. All of these cases were described in some detail. Mr. Taylor referred to the conditions necessary for success in operative work and to the special mechanics of the abdomen. Cases were cited illustrative of (1) the cure of sterility by removal of tumour of ovary, (2) of intraperitoneal hæmatocele, and (3) of immediate hæmorrhage. The paper closed with a short consideration of the causes and prevention of stitch-abscesses.

REVIEWS.

LECTURES ON CHILDREN'S DISEASES.*

In these Lectures Professor Henoch has confined himself strictly to diseases which occur more commonly in childhood, or show peculiarities at that period as compared with the same affections in the adult. The value of the lectures is greatly enhanced from their being practically an embodiment of Professor Henoch's own experience gathered during more than forty years uninterrupted work in the Children's Wards in the Royal Charité Hospital and Policlinic at Berlin. This long experience enables him to illustrate every branch of his subject with cases observed by himself, and as these are given briefly and clearly they are of great service for this purpose.

The first volume, after an introduction giving instructions as to modes of examination, is divided into five sections, treating respectively of Diseases of New-born Infants, Diseases of Infancy, Diseases of the Nervous System, Diseases of the Respiratory Organs, and Diseases of the Circulatory Organs.

Under the head of Pemphigus Neonatorum, Henoch distinguishes two forms—Pemphigus Simplex and Pemphigus Cachecticus. The former he considers quite unconnected with syphilis, and although the eruption may cover almost the whole body, the palms and soles remain free from it, or if, as is occasionally the case, affected, the bullæ are of immense size, involving half of the sole or palm, quite different from the flaccid purulent bullæ of pemphigus cachecticus, which rarely exceed the size of a pea or hazel nut.

The section on Nervous Diseases is particularly full and good. Our author regards chorea as a neurosis probably arising from an irritated condition of the co-ordination centres. The cause of this irritation will often elude observation, although rheumatism in some one of its forms is the commonest. In his opinion heart affection has nothing to do with chorea, except that both are due to rheumatism, which appears to act in an unexplained way on the co-ordinating centres.

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* Lectures on Children's Diseases. Vol. i. By Dr. E. Henoch. Translated by John Thomson, M.B., F.R.C.P. Edin. London: The New Sydenham Society. 1889.

Under the Hysterical Affections of Children Henoch includes chorea magna, catalepsy, voice spasm, etc., and classes them as follows:—1, Cases in which psychical symptoms predominate; 2, Convulsive symptoms; 3, Co-ordinate movements occurring spasmodically; 4, Neuralgic and trophic disturbances. The connecting link in all these cases he finds in the tendency to combinations of varied neurotic symptoms which continually change or alternate with each other. His illustrating cases are striking and suggestive.

OUTLINES OF THE CLINICAL CHEMISTRY OF THE URINE.*

Many of our readers will recollect Dr. MacMunn's admirable post-graduate lectures on the clinical chemistry of the urine delivered at the Birmingham Medical Institute in the spring of this year. They will welcome their reappearance in book form; while the profession at large will appreciate the advantage of obtaining in so convenient a compass the opinions and views of such a well-known and competent authority.

The book opens with a short but sufficient account of the anatomy and physiology of the kidney, which is followed by an excellent chapter on the general characters of normal urine, the remainder of the first part of the book being taken up with a description of the chemistry of the constituents of the urine in health. In this section the most important chapter is that devoted to urea, which is very full. The second part of the book describes the abnormal constituents of urine; while the third part deals with urinary deposits and calculi and the alterations caused in the urine by drugs and poisons, with their detection.

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* Outlines of the Clinical Chemistry of the Urine. By C. A. MacMunn, M A., M.D. Dub. London: J. and A. Churchill. 1889.

It will be gathered from this description that Dr. MacMunn has produced a book which is much more than a practical treatise on the clinical examination of the urine, and in fact deserves to be regarded as a standard work of reference. If it enters into greater detail than is required for the ordinary needs of the practitioner, it will be found to contain at least all he needs to know, and will prove especially valuable to students, hospital residents, and others who desire to have by them a completely trustworthy text-book. By this work Dr. MacMunn may not add to his scientific reputation, which is based upon his numerous valuable original contributions to physiological chemistry; but he has produced a more complete and satisfactory account of the chemistry of the urine than is to be found in any other English publication, and has proved that his biological researches have not hindered him from following in the closest manner the progress of chemistry in its applications to medical practice.

ON BEDSIDE URINE TESTING.*

We have already expressed an adverse opinion to the value of Dr. Oliver's methods of urine testing, and in this we are supported by all or almost all authorities on the subject. Dr. Oliver's test papers are ingenious, but they are surrounded by so many fallacies that they are more calculated to confuse than to enlighten those who use them. For example, the author recommends strongly the use of Tanret's test, potassio-mercuric iodide, for albumen; yet it was with this test that Chateaubourg found albumen present in 84 per cent. of healthy persons! Urine testing by the bedside may have an impressive effect on the patient and his friends, but those who wish to come to accurate conclusions will do it at home.

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* On Bedside Urine Testing. By George Oliver, M.D. Lond., F.R.C.P. Fourth edition. London: H. K. Lewis. 1889.

LONDON (ANCIENT AND MODERN).*

This little book contains reprints of two essays delivered by the author in the beginning of this year. The first deals with London from a sanitary point of view, and sketches briefly the historical development of those conditions which at present influence the health of the metropolis. Dr. Poore especially deplores the loss of gardens or courtyards to the houses, and denounces the crowding which is constantly increasing. He suggests, as a remedy, giving power to the County Council to control the erection of buildings, to forbid their construction above a certain height, and to insist upon the allowance of a certain proportion of curtilage or courtyard to each house.

The second essay is a very interesting account of medical London, in which, without pretending to any original research, Dr. Poore has put together a great deal of information about the old buildings, corporations, and practitioners connected with the history of medicine in London. This essay is pleasant reading to everybody, but is especially interesting to those beginning the study of medicine in London, many of whom we hope will search out, with Dr. Poore as their guide, these old landmarks of their calling, and in the legitimate pride of their connection with such honourable antecedents, lay the foundations of that love for and pride in their work which are essential to the right performance of the duties of our profession.

NOTES ON MEDICAL EDUCATION.†

This volume contains reprints of—1, an address delivered in 1879 at the opening of the Winter Session at Queen's College; 2, an address delivered at the opening of the Winter Session at

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* London (Ancient and Modern) from the Sanitary and Medical Point of View. By G. V. Poore, M.D., F.R.C.P. Cassell and Co., Ld. 1889.

† Notes on Medical Education. By Sir James Sawyer, Knt.. M.D. Birmingham : Cornish Bros. London : Simkin, Marshall and Co.

Queen's Hospital in 1876; 3, a chapter compounded of two addresses delivered in 1884 and 1885 at Queen's College and the local Branch of the British Medical Association. Most, if not all of these have already appeared in these pages, but they have been revised and re-written for the present publication.

WHAT TO DO IN CASES OF POISONING.*

A BOOK that has reached its sixth edition stands in need of no praise. It is, as might be expected, a very well arranged and useful little manual, small enough to be carried easily in the pocket. The only word of criticism we have to suggest is that the book is made the medium of advertising the antidote bags of Martindale, and Burroughs, Wellcome and Co., a practice that cannot be considered commendable. An excellent antidote bag is sold in Birmingham by Messrs. Philip Harris and Co.

HYDROPHOBIA OF 1889.†

THIS pamphlet is the work of a person who appears to possess neither sense nor education. It is destitute of information, humour, and wisdom, but replete with silly, spiteful criticisms of people whom the author is totally incapable of judging. The scope of the essay is sufficiently indicated by saying that the author treats belief in rabies as a superstition akin to belief in witchcraft, and accuses the "governing classes" of pretending to believe in it in order to gain power. We will quote one passage. "M. Pasteur, though a humbug, is evidently a practical old gentleman, who, finding his country in a dilemma after the German War of having to pay eight milliard *(sic)*, the indemnity to the German nation, came to the conclusion that he would practise upon the credulous, to copy Dr. Jenner, and so get money from all parts of the world sent into France." We are certainly not averse to criticism of M. Pasteur's method, but this sort of language is not only contemptible but disgraceful. Unfortunately, as Schopenhauer says, the man who writes for fools is always sure of a large audience.

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* What to do in Cases of Poisoning. By William Murrell. M.D., F.R.C.P. Sixth edition. London: H. K. Lewis. 1889.

† Hydrophobia of 1889. its Cause and Cure: A Plea to Commute the Sentence of Six Months. Written by a Dog with a Sore Nose. Published by W. Roberts, 7, Water Lane, Ludgate Hill.

Local News.

OPENING OF THE QUEEN'S COLLEGE.

THE Session of 1889-90 was opened by a conversazione on the evening of the 1st October. The whole of the College, specially lit for the occasion with electricity by Messrs. Fowler and Lancaster from the Electrical Exhibition, was thrown open to the visitors. There were a number of exhibitions on view throughout the evening. In the Dissecting Room, which has during the vacation been entirely re-fitted and supplied with new lighting and ventilating apparatus, were a number of anatomical models, after Professors Cunningham, His, and others. In the Materia Medica Museum Messrs. P. Harris and Co. exhibited new drugs and apparatus, and Messrs. Burroughs and Wellcome new preparations, amongst which Dr. Ward Cousins' antiseptic ear-drum, glycerine suppositories, and hydrarg. iodic—a new and powerful antiseptic—were the greatest novelties. In the Museum Messrs. Salt exhibited surgical instruments and appliances, Messrs. Best and Son a new fracture cradle, and Messrs. Fowler and Lancaster electrical apparatus. In the new Medicine Theatre was a collection of teratological specimens exhibited by Professor Windle.

At the distribution of prizes, which took place in the Examination Hall, the Rev. the Warden presided, Professors Pemberton and Wilders presenting the College and clinical prizes respectively. The report, which was read by the Hon. Sec., Professor Windle, shewed that for the first time the number of students on the rolls exceeded 200, there having been 225 during the past year. A new Theatre had been fitted up during the year, and a new Anatomical Museum and Pathological Laboratory were in course of construction. The following is the prize list:—

PRIZE LIST, OCTOBER 1ST, 1889.

	MEDAL.	CERTIFICATE.
Medicine		Harold Mason S. Greenwood
Surgery		S. Greenwood
Anatomy (*Sen.*)	C. F. M. Ward	T. W. Beazeley
,, (*Jun.*)	J. R. Hickinbotham A. Martin	A. Berlyn F. H. Marson R. B. James
Practical Anatomy (*Sen.*)	T. Beazeley C. F. M. Ward	H. Motteram J. H. Sproat
,, ,, (*Jun*)	J. R. Hickinbotham A. Martin	A. Berlyn R. B. James J E. Hickman F. H. Marson
Chemistry		H. Shore
,, *Practical*	H. Shore	J. E. Hickman
Physiology	T. Beazeley	J. H. Sproat C. D. Marson
,, *Elementary*		J. A. H. White H. G. Dain H. Shore
,, *Practical*	W. A. Marris J. A. H. White	J. A. Berlyn
Botany		H. Shore
Forensic Medicine and Toxicology	C. D. Marson	L. P. Gamgee
Psychological Medicine		E. H. Snell
Midwifery & Gynæcology		C. R. Lunn C. A. Green
Dental Surgery		W. J. Royal G. Foster C. A. Hodson
,, *Anatomy*		G. Foster C. A. Hodson
,, *Mechanics*		C. A. Hodson
Senior Clinical Medicine		G. J. Dudley
Junior ,, ,,		G. Kendrick
,, ,, *Surgery*		C. R. Lunn
Clinical Operative Dentistry		E. Parrott
Physics		G. P. L. Gregory G. A. Wilkes
Sands Cox Prize		J. F. Jordan

Prosector's Certificates.

S. H. Perry, L. P. Gamgee, A. W. McMichael, C. A. Green.

After the distribution of prizes a concert, under the direction of Dr. Crooke, was given in the Anatomy Theatre, the performers being teachers and students.

Refreshments were served during the evening in the Dining Hall.

REPORT OF THE COUNCIL.

The report of the Council of Queen's College to the annual meeting of Governors for the academical year ending Michaelmas, 1889, states that with respect to the medical department the total entry for full and partial curriculum was 59. The number of students on the books was 225. The Council regard the growth of the school with satisfaction, this being the first year in which the numbers have exceeded 200. The number of passes obtained by students during the year was 178. Of these 3 were at University intermediate examinations, 6 at final; and 128 at intermediate and 41 at final examinations of licensing corporations. The total number of past students now in practice, as far as can be ascertained, is 593. Dr. Hogben having resigned the post of medical tutor, Dr. Mahood, who had been assistant medical tutor since October 1, 1888, was elected in his stead. The recent increase in the number of students—the number having nearly doubled itself in the past six years—has obliged the Council to take into serious consideration the question of providing increased and improved accommodation. They accordingly gave notice of termination of tenancy to the tenant of the interior of the College, Mr. Grove, with a view of securing further space, and appointed a special committee to report as to the best method of utilising it. The committee, having inspected the premises, held several meetings, at which plans of improvements were prepared and tenders obtained to carry them out.

The committee reported (1) that the Dissecting Room should be fitted with new ventilating and lighting apparatus; that the upper room should be provided with a new floor, and that fresh tables should be provided throughout; (2) that a new theatre should be fitted up in the Pathological Laboratory, to be used for all lectures save those on anatomy; (3) that a new Pathological Laboratory should be fitted up in the upper part of the same building; and (4) that the Dining Hall be converted into an Anatomical Museum, with a curator's room, and connected by a passage with the present Museum. They also recommended that the tender of Mr. Turner, of Lansdowne Street, be accepted.

During the vacation those parts of the plan which relate to the Dissecting Room and new theatre have been carried out, and the remainder will be executed immediately upon the termination of the tenancy of the present occupants and in time for use in the next summer session. The museum extension is much required in consequence of the rapid growth in size of the pathological and anatomical collections. The Council have during the past year had to acknowledge with thanks the deposition in the Museum of a collection of over 150 specimens from the museum of the General Hospital, many of which specimens are of a considerable value.

During the year Dr. S. Barwise, a former student, has been appointed Medical Officer of Health for Bradford; Dr. Purslow, a former student, has been appointed Obstetric Officer to the Queen's Hospital; and Dr. Jordan, also a former student, has been appointed Demonstrator of Physiology in the Mason College. Mr. Jordan Lloyd has been appointed Assessor in Anatomy at the first examination, and Professor Windle Examiner in the same subject at the second examination, for the degrees in medicine of the University of Durham.

The Council have to report that "the condition of the Theological Department is satisfactory, though it does not shew any great increase in the number of students. This is no doubt owing to the high standard required for the final examination. The maintenance, however, of such a standard is of great importance, not only to the students themselves, but also in the interests of the Church." During the past year seven students have been ordained—four priests and three deacons. The Rev. F. S. Beale has taken his B.A. degree at the University of

Durham, and the Rev. F. G. Tompkins gained an honorary fourth class at the examination for his B.A. degree. The Rev. G. S. Atkins has been appointed to Knappagh Rectory, near Westport, county Mayo.

The following members of the Council retire this year by rotation—viz., The Right Hon. Henry Matthews, Q C., M.P., Sir James Sawyer, M.D., Dr. Alfred H. Carter, and Mr. Lawson Tait. These gentlemen are eligible for re-election.

The accounts, audited by Mr. O. Holt Coldicott, shew that the fees received from students in the Theological Department were £309. 4s. 6d., and in the Medical Department £2,526. 16s. 10d.

Letter to the Editor.

MEDICAL AID ASSOCIATIONS AND FRIENDLY SOCIETIES.

Sir,—An attempt having been made here to start a branch of the "National Medical Aid Company" and a Medical Aid Fund for the families of a Lodge of Oddfellows, a meeting of the medical men of this district was called to discuss the question; and, as a result, the following pledge has been signed by 21 out of 23 of those either in or retired from practice. One of the exceptions is a retired surgeon, the other a practitioner who has promised to sign it as soon as he is free from his medical refereeship, of which he has sent in his resignation, to the National Medical Aid Company. Such societies are so pernicious, and have been so disastrous elsewhere to our profession, that we felt it necessary to make a stand against their establishment here; and a copy of the pledge is sent to you for publication with this, in order that our profession in other places may be strengthened against such combinations against its well-being.

"We, the undersigned members of the medical profession of

Malvern and its neighbourhood, taking into consideration the fact that there are well-established Provident Dispensaries in our midst, pledge ourselves not to undertake the care of families of members of Friendly Societies at a contract rate of payment."

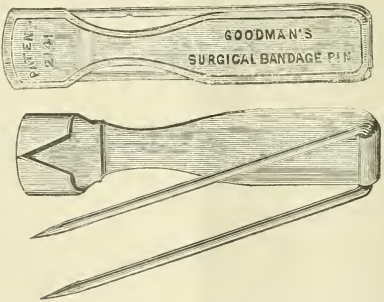
Yours faithfully,

STANLEY HAYNES, M.D.

Malvern, 30th Sep., 1889.

NEW INVENTIONS, DRUGS, ETC

GOODMAN'S PATENT NICKEL-SILVER SURGICAL PIN.—This pin has the advantage over the ordinary kind of being more secure, and of presenting a flat, smooth surface which does not catch against surrounding materials. It is also non-corrosive.



PATENT THERMO-SAFEGUARD FEEDING BOTTLE.—It seems to us that it is rather an unnecessary refinement in the dietetic management of infants, to insist upon the employment of a thermometer for the purpose of estimating the temperature of the food; and we venture to think that the time-honoured maxim of "taste before you try," is amply sufficient to meet the case. But for those who desire greater exactitude, we can confidently recommend the very convenient feeding bottle introduced by the eminent firm of Burroughs, Wellcome and

Co., under the above name. A small thermometer is inserted in the substance of the bottle so skilfully, that there is little risk of breakage, and the temperature of the food may be easily observed. The bottle is provided with interchangeable stoppers, so that it may be used either with or without a rubber tube.

Miscellany.

THE ELIXIR OF YOUTH.—This is the way the Americans revenge themselves for having been the only civilised nation that has given any credence to Brown-Séquard's recent discovery :—

"Many curious experiments were made in Paris by Dr. Brown-Séquard in the early stages of his elixir experience, according to the local physicians there. Most of those experiments were made on animals. He was greatly gratified. Into the fore-leg of an old horse, that was so worthless on account of age that in another day he would have been in the soup—the mock turtle soup of Paris—he injected his elixir. In an hour afterward, with bright red nostril and tail neatly draped over the dashboard, he sailed up the Shonz Eleeza knocking spokes out of valuable carriages all the way up to the Arc of Triumph, where he chipped out about five cents' worth of the corner of that great work and piled up Dr. Brown-Séquard in a chaos of clothes and contusions. His first anxiety was to find out, of course, whether the hyphen had been knocked out of his name. Finding that it had not he returned to his experiments. He also secured an old dog with thick hearing and pronounced flagging of the mental powers. The dog was so old that he had forgotten everything and so blind that a French soldier in red gored trousers did not startle him any more. After a dose of the elixir he wagged his tail, a thing he had not done for years. Then he yawned and ate some grass. He then noticed a cat on the lawn, one that had grown old with him. but had not had a nip of the elixir. He took after her and in two minutes he had her quivering remains on the grass. By four o'clock he had gone back to puppyhood and had chewed up Dr. Brown-Séquard's white gaiters, a pair of lace curtains, and a child.—BILL NYE."

DR. BROWN-SEQUARD.—The name of Dr. Brown-Séquard having lately been brought before the public eye more frequently than heretofore, considerable curiosity has been expressed as to his nativity. To satisfy this very natural desire, we will state that the doctor was born in 1818 in the island of Mauritius, where his father, Edward Brown, a native of Philadelphia, and previously master of a merchant vessel, was engaged in business. His mother was a French woman named Séquard, who lived on the island. All of young Brown's preliminary studies were made in Mauritius, and it was not until he had reached the age of twenty that he went to Paris to complete his medical course and take his degree. The language of his family and his youth is French, and he speaks it better than English, although in writing he has an equal command of either tongue. He has been married three times—first to a Miss Fletcher, of Boston ; secondly, to a Miss Carlisle, of Cincinnati ; and his third wife, who is still living, is an English woman, the widow of an Irish engraver named Doherty.—*American Analyst.*

THE FAITH CURE.—In a recent sermon Sam Jones delivered himself as follows concerning the faith-cure brethren :—" I'll tell you where this faith-cure comes in—There's an old brother and sister who have been taking all the nasty patent medicines in the market for the last ten years ; somebody comes along and prays over them, and they quit using the patent medicines and they're well again. They say it was faith cured them. It was faith. It was the faith which caused them to quit taking patent nostrums which cured them."—*New York Med. Record*, Sep. 14. 1889.

New Books, etc., Received.

A Contribution to the Surgery of the Spinal Cord. By WILLIAM THORBURN, B.S., B.Sc., M.D. Lond. London : Charles Griffin and Co. 1889.

A Treatise on Gout. By Sir DYCE DUCKWORTH, M.D. Edin. London : Charles Griffin and Co. 1889.

Introduction to the Treatment of Disease by Galvanism. By SKENE KEITH. London : Truslove and Shirley.

A Year's Experience with Apostoli's Method, with Reports of Cases. By A. LAPTHORN SMITH, B.A., M.D. Reprinted from the *American Journal of Obstetrics*, August, 1889.

The Electrical Illumination of the Bladder and Urethra. By E. HURRY FENWICK, F.R.C.S. Second edition. J. and A. Churchill. 1889.

The Essentials of Medical Anatomy. By A. R. KENWOOD, M.B., C.M. Edin. and Lond. : Young J. Pentland. 1889.

Handbook of Obstetric Nursing. By FRANCIS W. N. HAULTAIN, M.D., F.R.C.P. Edin., and J. HAIG FERGUSON, M.B., F.R.C.P. Edin. Edinburgh and London : Young J. Pentland. 1889.

The Treatment of Pleurisy and Empyema. By BYROM BRAMWELL, M.D., F.R.C.P. Edin. Edinburgh and London : Young J. Pentland. 1889.

⁂ Authors can have reprints of articles at the following rates :—

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THE
BIRMINGHAM MEDICAL REVIEW.
DECEMBER, 1889.

ORIGINAL COMMUNICATIONS.

ADDRESS TO THE ABERNETHIAN SOCIETY AT ST. BARTHOLOMEW'S HOSPITAL.

OCTOBER 10TH, 1889.

BY OLIVER PEMBERTON, F.R.C.S.,
SENIOR SURGEON TO THE GENERAL HOSPITAL, BIRMINGHAM.

I REGARD your having asked me to address you on the occasion of the opening of the Winter Session of your Society as a distinction of no ordinary character. Allow me to assure you that whatever trouble or thought the undertaking may have cost, I shall be amply rewarded, should I, if only for a brief time, excite your interest in a chapter of the "Book of Surgery." A chapter, telling of some part of the story of that science and art—of life and death—as practised within these walls; as read and interpreted by myself in an experience of forty years, and whose first page only has been glanced at by you.

Hereafter, it may happen that to one of you the task may be allotted that I have undertaken to-day, that the retrospect of your time may more than compare with the records of my own. Let me indulge this hope. The beneficent workings of surgery are not more likely to move on slower in the future than they have in the past. On the contrary, the deeper the enquirer pursues his way, making fresh paths of investigation, the greater should be the find. The mine of surgical knowledge, with all its years of research, is entailed as a freehold on you, and on your successors. Your dealings with this inheritance are made easier by the labours of your predecessors, your return therefore, should, and must be, in expectancy, proportionately greater.

But whilst I foretell these increasing advances for you in science, I shall deny to you another of a different kind. In one respect, in our medical lives, each successive generation cherishes its own estimate of the value of friendships—of friendships formed in student times and carried on without a break far into life. I will anticipate for you the attainment of a friendship such as I formed in my early days here, equal to mine; but I do not think you will surpass my realisation of its value, or dispute with me the high character of the surroundings that have from the first belonged to the man in his youth or his prime.

Gentlemen, I allude to Mr. Savory, now senior surgeon of this great hospital, and within a few months for the fourth time, President of the Royal College of Surgeons of England.

No observations on the progress of surgery in my time or season could be complete without a reference to anæsthetics, to the foundation of those beneficent measures for the relief of human suffering, which will mark for ever the close of the year 1846. You cannot picture to yourselves the scenes that were then witnessed in never varying sameness. Pain always—agony frequently—torture sometimes—were the accompaniments of the art of surgery in the operating theatre and the accident room. Countless operations that would have prolonged, or saved life, were left undone, and it is not saying one word too much that the hand of the surgeon was paralysed in the face of torments such as these, pursuing his undertakings.

Incidents of this character, inseparable from the practice of our profession, deterred many from entering on its study; and to this day the remembrance of the first four years I passed in the pre-anæsthetic days of my hospital work can never be forgotten.

Those who may wish to learn the details of the first instance in which ether was used during a great surgical operation will find the information contained in a paper by Dr. William Squire, entitled "On the Introduction of Ether Inhalation in London," communicated to the *Lancet*, vol. ii., 1888, p. 1,220. The operator was Liston, and the case one of amputation of the thigh, and the date the month of December, 1846. Previously to the introduction of anæsthetics, rapidity in all operative proceedings was not only essential but humane; and in this instance Liston, who was unrivalled in the celerity of his movements, outdid himself, forgetting, I suppose, that his patient could not feel pain; for it is recorded that "only twenty-eight seconds elapsed from the first use of the knife to the last touch of the saw."

There can be no question—and this you will find out for yourselves—that nothing varies so greatly amongst individual men and women as the power to endure pain. I well remember, in the days I have mentioned, in my own hospital seeing an old woman from whom, as she sat in a chair, a large bony tumour had been removed, involving the top of her upper maxilla, and whilst the V-shaped flap was yet hanging unsutured, quietly stoop down and pick up a pin from the floor and put it in the front of her dress. I once operated on a gamekeeper by trephining, whose skull had been battered in, and having nearly ended after removing some nineteen fragments—he had been absolutely silent from the commencement—when he suddenly said he wished to know when the diggings up above were likely to be ended. In a case where a double amputation for frost-bite was needful just below the knees, the man held the thighs himself, and simply said on the removal of the second, "It was sharp; but the saw did not cut so well through the second bone as it did through the first."

I do not remember who first used the expression "conservative surgery;" but whoever did selected a term which served admirably to convey the inauguration of a most important period of progress, and which may be said to have culminated during the first decade—from 1850 to 1860—of the time to which I am referring. Perhaps no better summary of the meaning of the words can be found than contained in Skey's description in 1851: "Conservative surgery aims at restoration rather than substitution—which truly regards the knife as a last resource, and its employment under any circumstances as a confession of ignorance." With conservative surgery, however, will ever be associated, as first and foremost, the name of James Syme—a master in surgery and of surgery of imperishable fame.

It had been customary to amputate in the leg generally at its upper 3rd for disease in the ankle joint or the tarsus. The destruction of the elbow joint involved the loss of the limb at some point below the shoulder. In amputation at the ankle, with the covering of the stump provided from the natural pad of the heel. In excision of the diseased parts from the elbow and the retention of the movements of the joint are afforded illustrations of the meaning and importance of this particular phrase. The recognition of these instances as established lines of treatment—they had been, as is usual, long in adoption and subjected to almost every form of hindrance—led Fergusson to the revival of excision of the knee, and laid the foundation for that treatment of tubercular diseases of that joint, especially in the young subject, which is one of the most brilliant achievements for saving limbs at this time.

This, then, is what is meant by conservative surgery; and I assuredly claim it, though planted in the thoughts of surgeons much earlier, as having grown to maturity only in the period of which I have spoken.

And here let me ask your forgiveness if I seem to lay too great a stress on the influence of one man—on the extent to which a single mind, from its solitary standpoint, creates an epoch. Nevertheless, in the history of science, and of ours in particular, it is absolutely true. Not to refer more particularly, it is what Priestley and Davy did in chemistry, Hunter in physiology; and I am prepared to maintain against all comers that Syme accomplished it in surgery. Hear what "our own" Sir James Paget says of Syme when speaking on the value of rivalry to schools and men, at a public meeting held in London in 1869, on the occasion of his resigning the chair of clinical surgery in the University of Edinburgh. He says:* "I have never been a pupil of Professor Syme other than I hope to be a pupil of other great men, by studying their works and trying to imitate their good example. Instead of speaking of Prof. Syme as a teacher, I speak of him as a rival—a member of a rival school. No man can have watched himself carefully without finding out that it is to the influence of his rivals over him, rather than to himself, that he owes the great measure of the success which he achieves. I doubt whether anything has done more good to the London schools than the honours Prof. Syme has won. With him we have been rivals."

If I were asked to tell you what, in my opinion, had effected the greatest change in the surgery of wounds and of arteries, I should reply, the substitution of animal substances for the hempen materials that so long held their own in the arrest of hæmorrhage, and in the treatment of aneurism.

The small silken thread, or fine strong whip-cord, around an artery in its continuity or at its divided extremity— the ends hanging out from the wound—were ever sources of deep anxiety, arising from causes often remote from each other, and wholly unexpected. The casting off, by the process of sloughing and suppuration of the ligature as the supreme day approached, was watched by the surgeon with trepidation. If thrown off too soon—would the coagulations in the severed vessels prove abiding ones, or had unhealthy inflammation, that loosened their hold, opened the way for secondary hæmorrhage to occur at any moment that an additional impulse from the heart—an alarm or sudden movement—broke through the clot. With what feverish anxiety, in what we may now term "the olden days," was this coming away of a ligature watched. I watched one once where I had tied the common femoral, for forty days ere its detachment was accomplished. You dare not be rash enough to pull at a tardy ligature—you might give it a turn or so, that was all. I remember to have heard that when an eminent physician—now a good many years ago—had to undergo amputation through the thigh, the ligature on the main vessel lingered, to the despair of the two great surgeons in attendance, doubly anxious for the safety of a professional brother. Each suggested to the other to take a turn at the string, and at last a turn was made, and the ligature came away accompanied by smart hæmorrhage, bright in colour and evidently arterial, but the coagulum held firm, and pressure arrested the flow which was evidently due to granulations.

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* Life of Syme. Paterson, London, 1874, p. 308.

These facts tell you conclusively of the drawbacks attendant on the most successful use of the hempen ligature; drawbacks not alone in connection with secondary hæmorrhage, but with the production of suppuration and consequent delay in the healing of wounds. The endeavour to limit this led Simpson to the use of acu-pressure, and with the same view Sir Joseph Lister renewed the investigations commenced and abandoned in the earlier years of the present century as to the best form of animal ligature which, whilst on the one hand it should prove sufficiently absorbent and unirritating, should also be so enduring as to render assured the due formation of a clot of such a character as would prove sustaining until repair was complete.

But whilst I have laid special stress on the almost limitless value of animal ligatures, let me ask your consideration of the altered conditions under which wounds in almost all situations and of all characters were being dressed. Conditions that anticipated the use of these materials, and in their application attained the crowning glory of success for operative surgery. I don't care by what name you designate the system of antiseptic surgery, whether you make use of means to prevent the lodgment of putrefying materials within the cavities of wounds themselves—or avert their entrance from without—in either case, I believe we arrive at the same conclusion that the chief factor in question is how best to carry out absolute and complete cleanliness. That this did not prevail as the dominant instinct guiding surgeon and attendants throughout our hospital system in the kingdom is beyond dispute.

The fatality attending primary amputation, the prolonged healing of wounds, the frequent incidence of sloughing and secondary hæmorrhages of pyæmia, and even of hospital sore, all these calamities dogged the footsteps of the surgeon and added a new terror to his responsibilities. Disasters, which recent experience has proved to us need not have happened, attended very trivial wounds into the interiors of joints and the cavity of the peritoneum.

Let me tell you what altered this and how it came about. I confess, remembering the past, a miracle might seem to have been at work, but like the miracles that happen in our day, it is one quite susceptible of solution. The teachings of Professor Lister, based on observation and experience, effected the change. Slowly, surely they have advanced, overcoming doubt and prejudice, until the argument by results is accepted by those who were for so long in the ranks of the incredulous. The development of this system and its special application to the work in hospitals I shall claim as the greatest event in the surgical history of my time. From the head to the foot there is scarcely an operative proceeding that has not been advanced in safety and completeness by its principles being carried into practice.

Take the instance of brain surgery to commence with:—Recovery from the operation of trephining the skull for intracranial suppurations in former days, and according to the authority of Guthrie, who had ample opportunity of experience at the time of the great war, was well-nigh unknown—an opinion confirmed later and nearer to these days by Sir Prescott Hewett. This well-recognised fatality led but too frequently to the surgery of delay—to the advent of those inflammatory sequences that were almost certain to seal the fate of the patient. Now, an increasing confidence is inducing surgeons to explore the brain in various forms of chronic disease. Yet more important is the recognition of the absolute duty of the surgeon in all cases of depressed fracture of the cranial bones in which the smallest doubt exists, either as to present or future mischief in the brain coverings, to at once expose the seat of injury, thus placing the advent of symptoms dangerous to life beyond probability.

In the abdomen the most wonderful advances have been made. In my early days the peritoneum, merely in name, seemed to convey a warning to the surgeon. Wounded in tying the great vessels, or torn in lithotomy, the case was too frequently completed without hope of recovery. Let me ask you, What have we before us now in our dealings with this peritoneum? The treatment of diseases of the kidney, the gall bladder, of wounded intestines and bladder, and of diseases special to women, in the beneficent results attendant on the operations performed for their relief, we have the answer as to the extent of our present fear in dealing with the peritoneum.

What is true about the peritoneum is equally true about synovial membranes. Mutilation for an opened joint is the very rare exception rather than the rule.

Enough, the principles involved in the antiseptic system, in whatever way and by whatever means carried out, mean an unremitting attention to details, to the use of covering materials that render constriction impossible, of chemical fluids that destroy the evil germs in pus, and as I have said before, underlying all these things is the one godly necessity, never to be forgotten, of cleanliness.

In the sketch I have laid before you as to what forty years has accomplished for the progress of surgery in my time under the headings of anæsthetics, conservative surgery, animal ligatures, and the antiseptic system, I have, I venture to think, supplied you, Gentlemen of the Abernethian Society, with a basis for comparison of what has been accomplished in my past with the anticipation of what may be in yôur future. You will have abundance of materials for discussion; and in order to bring to your thoughts from time to time as to what is yet wanting or grievously deficient—for there can never be finality in our calling any more than that we can hope for the ending of sin and sorrow and human suffering around us—I will mention one or two matters for your consideration under the heading of "Desires for the Future."

In this future, first and foremost, I must speak of cancer—the cure of malignant disease! It has been my lot to have seen as much, and to have thought as much as most men living of cancer. Truly melancholy are the words I must utter on this subject. The cure of this destroyer of human life is no nearer to us at this moment than it was forty years ago, and then no nearer than it had ever been in its previous history. Further, it is thought, and not without reason, that its ravages amongst all classes, men, women, and children—among rich and poor—the strong and the weak, are rather on the increase than the contrary. These years have, in all truth, added greatly to our knowledge of its pathology, have enabled us accurately to foretell and generally to classify the degrees of malignancy as well as to measure the rates of progress in the various types of the disease. Moreover, I think we are able to tell our patients when life can be prolonged, or misery relieved by operation, but there, if we are honest, our ability to promise anything beyond ceases altogether.

Let us be thankful for having gained so much, and with the certainty of this advance in our clearer recognition of the disease, let us here, in a theatre of St. Bartholomew's hospital, express in words of admiration and gratitude the sentiments one and all entertain for the man and the teacher, Sir James Paget, without whose investigations, patiently, thoroughly, with heart and soul, carried on during those forty years we had yet been in a wilderness of uncertainty, and mankind would have had to bear a burden unlightened by any fair promise of relief.

No hospital surgeon can have failed to confess the feeling of dismay and helplessness with which he observes the advent of traumatic tetanus. The seizure, suddenly present, with hardly a warning, certainly not to be forecast in either the character or progress of any given injury, holds the ill-fated patient in unremitting convulsions. With rare exceptions death by vital exhaustion terminates the case without much delay, and we remain powerless to the last with our remedies, and without guide as to how best to rescue the next martyr, for here death is silent as to the cause, the scalpel of the pathologist having nothing to reveal. Now and then, why we cannot tell, a case does recover, the earlier symptoms abate, and though some remedy is vaunted for the nonce, I think, natural causes have the greater right to claim the victory.

Closely allied with tetanus is rabies, well-nigh as fatal and, until recently, without hopeful remedy. It may be that Pasteur's treatment by inoculation is on the right road to success, and may render unfruitful the seeds of the virus that have been sown ; but I am not aware of any single instance having occurred in which the actual symptoms of rabies having commenced that has not passed on to the fatal end. Parry, who wrote in 1814, speaking of the disease, says : "It is a truly deplorable one, inasmuch as, in the present state of our knowledge, it infallibly condemns the patient to death without the smallest chance of reprieve." Has this ceased to be true ? I have myself watched and treated four such cases from the day of injury, on through the period of incubation to the commencement of symptoms and to their termination, and, save by the ameliorating influences of chloroform and opium, have had not the faintest remedy. If the moral law did not reign supreme in all our breasts—to preserve life to the last moment in the face of a death the most assured and agonising that can be imagined—"Euthanasia" here had not been appealed to in vain.

To the foregoing the future has in compass the further development of brain surgery, of the surgery of the contents of the chest—both, especially the latter, in their infancy ; and to these may fitly be added the consideration of the treatment, by practical measures, of internal aneurisms. It seems hard to be able to promise the saving of human life by our treatment of arteries in the limbs, approved in numberless instances, and then to view the same structural defects in the larger and internal vessels defying our efforts.

If I seem to have laid unusual stress on these wants, I pray you do not imagine that there are not many more openings presenting themselves to the enquirer, who will never admit that when one thing is well done and finished he is not able to provide himself with a "next."

For nigh two hundred years this hospital has by its staff been steadily advancing the progress of surgery. All in the roll of this long period have added, according to their special gifts and endowments, some contribution to lessen the effects of injury or disease. But there are some names that stand out conspicuously beyond the rest; and to these I would refer, inasmuch as it is to them, the pioneers of the advances that the past forty years have witnessed, that surgery owes so much. The race of these typical men is by no means exhausted; it is yet in evidence amongst you; and be it your endeavour that its numbers are not diminished in your time.

In this great past I shall place before you the names of Percival Pott and John Abernethy; in a younger past, within reach of the memory of many of us, and hardly yet away from their strong and living personality, those of William Lawrence and Frederick Carpenter Skey.

Pott, for nigh forty years (from 1749 to 1787) was Surgeon to the Hospital. Essentially of a practical turn of mind, he applied his talents with remarkable success and originality to the development of the Art of Surgery—advisedly I use the term art, for the development of its science at the hands of Hunter could scarcely have influenced the practice of this master of the handy-craft of surgery.* The record of his work, of his investigation into numerous surgical diseases in a series of essays, remarkable for elegance as well as simplicity in diction, left to us by Earle, will last as long as surgery itself. Who is not familiar with his puffy tumour of the scalp, the discrimination of which to this day continues, without close attention to the directions he has laid down, to puzzle the teacher as well as the pupil; or with those "effects of fracture of the fibula" too frequently illustrated for us in the damaged and deformed ankles that we encounter; or yet more on that "curvature in the spine inducing palsy of the lower limbs?" No trêatise on surgery, in whatever language written, or spoken, but yet bears witness by reference to his name, as for all time to be associated with the correct understanding of the treatment of these conditions of disease and accident.

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* Hunter died in 1793, five years after Pott, who was born in 1713, or fifteen years before Hunter.

With Pott's resignation in 1787 the advent of Abernethy's connection with the hospital commenced—a connection that lasted for forty years; and it may be a certain solace to the assistant-surgeons of this day to reflect on the fact that no less than twenty-eight of these were passed in that honourable position.. Whatever responsibility, however, fell to the share of this remarkable man in either of these offices, there is no doubt of the fact that he recognised the importance of teaching in such a way that within four years of his appointment as assistant-surgeon, the Governors of the hospital erected for the first time a regular theatre within the hospital precincts, and here Abernethy delivered the winter lectures on anatomy, physiology, and surgery.

To Abernethy must be awarded the merit of having founded the school of St. Bartholomew. The few lectures given by Pott were, I take it, admirable clinical lectures in their day; but no regular anatomical school existed. It is true that outside the circle of which St. Bartholomew's was the centre some earlier advances in the establishment of systematic lectures had been made, notably in the kindred hospital of St. Thomas, where Cline began ten years previously, following in the footsteps of that great father of English surgery, William Cheselden, with whose name must ever be linked the earliest mention of lectures being viewed as a part of hospital work.

We have it on authority that Abernethy closely followed the teachings of Hunter, was a constant attendant at his lectures, and endeavoured as far as possible to imitate his example by studying, through anatomy, the general economy of organised beings, and, through physiology, that "science of observation," surgery, the application of which to its practice was the crowning glory of Hunter's career. Whatever views may be entertained of Abernethy's interpretation of Hunter's ideas of "Life"—of his opinions on the origin and actions of living bodies—whether he was correct in his interpretation or the contrary—whether he was wise in raising a tumult that served no other purpose than all tumults have served in all times of history, the delaying the spread of the truth—is no question for us here. It is a matter that has long since been put aside. But what does concern us here is the practical use that Abernethy made of Hunter's investigations.

Hunter, about 1785, had established principles on which aneurism in the limbs could and should be cured, the femoral artery being the seat of treatment. Abernethy in 1797 carried onwards Hunter's views, and for the first time applied a ligature to the external iliac. This enterprise, though unsuccessful, secured imitation and nine years later Freer in the Birmingham hospital tied the same vessel for the first time successfully, Abernethy following shortly after with a similarly successful issue.

In other ways surgery is indebted to Abernethy. His views on immobility in the treatment of joints, on the union of intracapsular fracture in the neck of the femur, and I could multiply examples—I refrain. You may be led by what I have said to enquire further for yourselves. I will express but one other thought which my contemplation of Abernethy's career has created. It is that to him more than to anyone I know in the period I am considering, is owing the proof that the responsibilities of physician and surgeon could be combined in the same person. A man who is a surgeon only, says Billroth, "is like a bird with one wing." This reading of the inseparable union of medicine and surgery is accepted at this time, but it was not so when "My Book" "On the Constitutional Origin of Local Diseases" was published.

The memory of William Lawrence is yet vividly before us.

No words of mine can adequately convey to those who knew him not what he really was—his pre-eminent talents, his power as an orator, as a conversationalist, as a writer—all these endowments, cultivated and strengthened by an indomitable spirit of personal confidence combined to make him an absolute power in his own science, and an acknowledged chief amongst those men whose enquiries, broad and speculative, surprised and in some instances dismayed the English-speaking world.

The personal influence of Lawrence was amazing. Apart from his mere expression of an opinion or a judgment on any individual matter or case, it seemed as if an irresistible mental authority accompanied his words, altogether unlike the utterances of others, and compelled assent to his decisions. This remarkable individuality will make it impossible for those who hereafter read or think of Lawrence to explain how it was that he for so long indisputably stood in the front rank of the intellectual life of this school. General surgery stood deeply indebted to him for what he accomplished as a teacher and writer during the more than forty years he was full Surgeon to the Hospital. His works on Hernia, on Diseases of the Eye, were of special value at their time, and yet are monographs admirable in composition, arrangement, and completeness. His lectures on Physiology, Zoology, and Natural History of Man, are unrivalled for lucid and graceful exposition; and at the close of a life, prolonged and eventful, his lectures on Surgery afforded an illustration of the vast experience that had been at his command. As Mr. Savory remarks, "No brilliant discovery will connect itself with his name, but the record of his entire work. This should suffice to secure his place and fame in the future."

A quarter of a century has passed away since Frederick Carpenter Skey ended his connection with this school. To those of us who knew him, no kinder friend, no more thorough and original teacher, no better or more brilliant operator can be imagined. Skey was essentially a conservative surgeon. He looked on operations as a painful necessity, and as an acknowledgment of surgical defeat, never of victory. I know of no observations so worthy of attentive study as his exposition of the principles that should regulate the judgment of the surgeon in reference to the performance of operations generally. They have been quoted ere this, but their repetition only serves to impress their value on our minds, as they have the ring of "true metal," and point to a moral obligation, not always evident as the guiding star to the surgeon to stay or put out his hand.

"I have endeavoured," he says, "as an English Metropolitan surgeon, to carry into execution at least one primary object, viz.: to strip the art of operative surgery of a false glare, mistaken by the ignorant for the lustre of real excellence, to check a spirit of reckless experiment, and to repress, or other than encourage, the resort to the knife as a remedial agent." When to this may be added the statement that Skey was second to none in the ability, dexterity, and safety of his dealings with the knife, I have, I hope, impressed on your minds the value of a creed, which having once acknowledged, you will not foreswear hereafter, and if this were the only bequest that Skey has left to you, it is ample to hand down his name in the list of those who have increased the reputation of this school.

Of such manner of men as these have been many of your teachers. A skilful hospital surgeon has been fittingly described as being "one of the most elaborate products of modern civilisation." His sayings and doings are the property of a very large audience of many observers. The old description of clinical teaching that a surgeon of eminence had "gone his rounds in the hospital without once opening his mouth" can no longer anywhere be found, and we may all of us give three cheers for the departed. The clinical teaching of this school embraces all that is needful to complete, in one centre, the education of the student. I may congratulate those who attend here in having every division of work in order for learning. In his last lecture, delivered in 1868, Syme congratulated his class that in Edinburgh there were no fistula infirmaries, stone or cancer hospitals, or orthopædic institutions, so every department of surgery could be adequately represented in a clinical course. Surely what was and is true of the great Infirmary of Edinburgh may yet be said of St. Bartholomew's despite the struggling developments of piecemeal surgery that in this Metropolis are too often without either audience or observers—those safeguards to the due protection of the public from the disasters attendant on neglect, incapacity, or experiment.

The task your appreciative confidence has imposed on me is nearly finished. I have endeavoured to place before you the gains to surgical art and science that have been won since the time when I myself was first a student in this place. Each succeeding generation of men is prone to regard its own period as *the* one to be lauded, surpassing all gone before. If this be so, I will content myself with expressing the hope that this conviction will be justified in your course of the future. But what a revelation you must have if you are to beat my record! I confess you have the materials for the work. Amid the scholastic surroundings of this ancient foundation the nurture of scientific enquiry is sedulously maintained, and you have the successors of those men some of whose doings at this hospital for the benefit not only of its own students, but of all students, I have striven to portray. Have I, or have I not aroused in your breasts thoughts concerning those figures that erewhile stood conspicuous within these walls? It is true their voices are no longer heard, but their works bear silent testimony to the value of their lives. You may trace their footprints on all sides, and it is for you, in pursuing their course, to endeavour not only to preserve them, but to make them, by your own efforts, yet more enduring. I repeat, you have the materials, and beyond these you have yourselves created assured "hostages to fortune." For nigh a century your Medical Society has flourished, and without falling off either in numbers or character, has been enabled to afford during this long period additional means for the advancement of knowledge. All the men of note connected with the hospital have in turn worked amongst its members; and to this day you perpetuate the connection of not the least illustrious name that St. Bartholomew's claims for its own by calling it "Abernethian."

Someone has said, "Reading makes a full man, Writing an exact one." The truth of this is so apparent that no words of mine are needed to encourage the student to place his thoughts in writing. This reading and discussing of papers—constituent elements in a Society such as yours—of a certainty leads the way to a habit of reflection and to a cultivation of accuracy, and to the attainment it may be of some fresh light being thrown on subjects hitherto shadowed in darkness.

I envy the future that is before each one of you whom I now address. And to all may health and strength be granted. I have to add but a few words in justification of this venture of telling you of some time passed in the ways and thoughts of surgery, as testified to the best of my ability by myself, and this, from the earliest master of surgery in our land, Wiseman,* who says, "The study and dignity of surgery are too well known to want the help of the orator to set them forth."

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* 1676. Chirurgical Treatise.

REPORTS OF CASES.

ON HERPES ZOSTER.

BY J. GIBBS BLAKE, B.A., M.D. LOND.

On the 28th of June, 1889, a gentleman, a little over sixty years of age, called upon me complaining of pain on the outside of the thigh extending down the outside and front of the leg. I took it to be an ordinary case of sciatica, and I arranged for him to call again in a few days; but instead of coming, on the 1st of July he asked me to call and see him. The pain was very severe, and he could only stand and walk with difficulty. On examining the leg, I found below the middle of the calf several vesicles in the area supplied by the internal saphenous nerve. The largest patch was over the inner ankle. There was an epidemic of herpes zoster in Birmingham at that time, and Dr. Byrom Bramwell's "Clinical Study" on the same subject had just appeared. The diagnosis of the case was evidently herpes zoster in an unusual position. I took with me to the patient's house the diagram copied by Dr. Byrom Bramwell from Professor Flower's book,* and dotted down on it the position of the vesicles with a red crayon (fig. 1). In addition to the

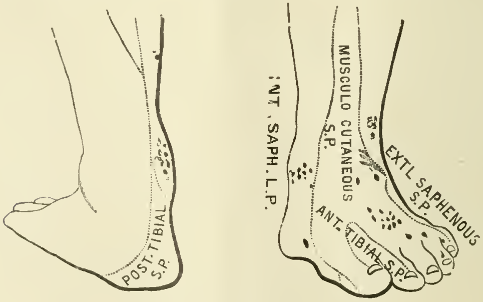

Fig. 1. The vesicles are represented by black dots.

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* Diagrams of the Nerves of the Human Body. W. H. Flower, F.R.S. 1827.

above, a well-marked patch of vesicles appeared on the dorsum of the foot, in line with the third, fourth, and fifth toes, in the part supplied by the musculo-cutaneous nerve, and one vesicle appeared between the fourth and fifth toes. Two days later vesicles appeared on the sole of the foot, most numerous in the middle of the sole, one on the pad at the base of the little toe, and three on the under surface of the big toe; one of these was at the junction of the big and next toe (fig. 2). The vesicles under the thickened epidermis caused a good deal of pain. They all dried up in a few days and presented the characteristic purple brown colour, and the neuralgic pain gradually subsided.

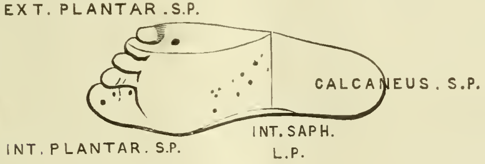

Fig. 2.

There are two points of interest in this case. First, the unusually distal position of the herpes; and secondly, the distribution of the vesicles in the area affected.

In the third number of Dr. Byrom Bramwell's "Studies in Clinical Medicine" he directed attention to the fact that "herpes zoster is seldom if ever observed on the hands or feet;" but in the fifth number, June 28th, two correspondents communicated each one case of herpes zoster of the hand. Mr. H. Taylor reports a case of herpes zoster in the *British Medical Journal* for July 6th, 1889, page 14:—"A young woman had several small clusters of vesicles on her left leg following the course of the internal saphenous nerve from below the knee to the inner ankle;" but I have not met with any recorded case where the rash has gone so near the termination of the nerves of the lower extremity as in the one described in this paper. There is some difficulty in explaining the distribution of the vesicles, because they are not limited to the area which is classically described as supplied by one nerve, for in this case they invade the areas supplied by the internal saphenous from the lumbar plexus on the one hand, and by the posterior tibial, external saphenous, and musculo-cutaneous nerves from the sacral plexus on the other. I shall try to shew that in this patient the hypothesis of a neuritis of the great sciatic is not negatived by the distribution of the vesicles.

Recent literature on the subject of the innervation of the skin of the extremities goes to show that there are two possible explanations of the difficulty to account for the distribution :—1. The first and most obvious explanation is the existence of an anomalous distribution of nerves ; 2. the second is that in a normal state there exists a double nerve supply to the parts in question ; and this has been found in two forms—*(a)* the overlapping of the terminal twigs of the cutaneous nerves and *(b)* the anastomosis and looping of nerves, called by Rud. Jacobi the "collateral innervation of the skin."

With regard to the anomalous distribution of nerves, H. Hartmann* says : "Nerve fibres do not follow the fixed course that our classical authors have insisted upon. The unchangeableness of the nerve supply has been looked upon as a dogma, and it is common to contrast the fixity of the nerves with the variability of the arteries, veins, and muscles. When there is an anomalous distribution of nerves, a nerve filament is found in the place of a nerve trunk. Here, as in the case of anomalous arteries, the nerve filament is very small ; a part of the nerve fibres follow another course to arrive at their usual destination. These anomalies, which are very variable within certain limits, appear to be explained tolerably well by the mode of development of the nerves. The interest in them depends on their affording an explanation of pathological facts. Whenever we meet with symptoms which are not in accordance with our knowledge of the part, we ought to think of the possibility of an anomalous distribution of the nerves. The rôle played by these anomalies is obvious, in the cases just reported of section of the median nerve of the arm without motor paralysis and without anæsthesia. It is probable that they occur in other parts of the body."

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* *Bulletins de la Société Anatomique de Paris*, lxiii. Année. 5 série. tome ii., p. 164. 1888.

Another paper* immediately preceding that of Hartmann, in the same periodical, is devoted to the description of an anomaly of the external saphenous nerve, and is by M. Pierre Delbet. In the discussion that followed, MM. Suchard and Poirier confirmed the views of M. Delbet; and one of them went so far as to say that he could find ten anomalies of the nervous system in any man!

The second possible explanation may coexist in both (*a*) and (*b*) forms. I am indebted to Prof. Windle for the loan of a paper by Dr. H. St. John Brooks "On the Distribution of the Cutaneous Nerves on the Dorsum of the Human Hand."† In this paper, by a very careful and ingenious method of dissection, Dr. Brooks shews that in some cases the dorsal branches of the ulnar and radial nerves intercross for the space of three fingers; the basal parts of the index, middle, and a considerable part of the skin of the dorsum of the hand are thus shewn to have a double nerve supply. The application of this to the case under discussion is obvious, as we may fairly infer that a similar distribution may be discovered in the lower extremity.

We now come to the (*b*) form of double nerve supply which is called by Dr. Rud. Jacobi "collateral innervation of the skin." Dr. Brooks gives Dr. Jacobi credit for priority in advocating this form of double nerve supply in 1887 and 1884, but at the same time regrets that he could not consult Jacobi's longer papers.‡ A reference to the latter shews that Dr. Jacobi's conclusions are mainly drawn from a paper of Arloing and Léon Tripier published in 1869.|| These experiments on animals were under-

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* Loc. cit., p. 148.

† *Internation. Monatsschrift f. Anat. und Phys.*, Bd. v., Heft 8. 1888.

‡ *Archiv. f. Psychiatrie u. Nervenkrankheiten.* Bd. xv., s. 151-183 u. 506-559. 1884.

|| Recherches sur la Sensibilité des téguments et des nerfs de la main. *Archives de Physiologie normale et pathologique.* T. ii., p. 33 et sequent.

taken to verify former observations on men, and the following results were arrived at:—

Two centimetres of a nerve were removed, and after 24 days the peripheral end of the nerve continued to be sensitive and, although the majority of the nerve tubules had undergone degeneration, some were still intact. From this and numerous other experiments on the sensibility of parts after the section of nerves Arloing and Tripier conclude that near, or in, the skin the sensory fibres of the nerves ramify and anastomose. Some of them becoming recurrent and forming what Hyrtl calls "nerves without ends." The experiments were repeated on pes as well as manus. They found also that frequently arches were formed by branches being given off from contiguous nerves, and that long loops were formed by fibres leaving one nerve and joining another and again rejoining the original nerve.

The most probable explanation of the position of the herpetic vesicles near the inner ankle in the case above reported is to suppose that an anomalous nerve supply existed, and that some branch from the posterior tibial was given off to the inner ankle, which would remove all difficulty as regards the area of distribution. However, the skin supplied by the musculo-cutaneous goes very near to the inner ankle, so that some of its fibres may overlap those of the internal saphenous in a normal condition, or some of their fibres may form a loop and become recurrent, as described by Arloing and Tripier.

The following case is interesting, as it shews how neuritis of a nerve trunk shews itself as paralysis of the parts supplied by it with motor power and as herpetic rash at the extremities of its accompanying sensory fibres:—T. R. G., æt. 27, came to see me on March 5th, 1881, with well-marked facial paralysis (Bell's paralysis) of the left side. On looking into his mouth I saw clusters of herpetic vesicles on the soft palate, the contiguous part of the hard palate, and the side of the tongue, all on the same side as the paralysis. There was tenderness and swelling of the glands behind the angle of the lower jaw, and pain referred to the meatus of the left ear, but no discharge from the ear either then or later. In a fortnight I saw him for the third time. Then all traces of herpes had disappeared and the glands were no longer swollen. Here probably the chorda tympani and the petrosal branches of the fifth were involved in the inflammation of the portio dura of the seventh nerve, so that Bell's paralysis and herpes zoster co-existed.

Whilst writing this paper I saw another case of herpes which appeared over the middle of the frontal bone, after considerable pain in the left eye and supra-orbital region. A cluster of four vesicles were observed, on an inflamed and elevated base of the size of half-a-crown; the lowest vesicle was on the left side, two, one above the other, were in the middle line, and the fourth, higher up than all the others, was entirely on the right side. In this case the neuritis was probably in the orbital portion of the supra-trochlear nerve, and shewed its signs at the part supplied by some of its terminal twigs. But how can we explain the presence of the vesicle on the right side of the middle line? The experiments of Arloing and Tripier, referred to above,* suggest an explanation. They found that some of the terminal branches of a nerve joined other fine branches of a neighbouring nerve, that some of the nerve tubules became recurrent in the neighbouring nerve and that the sensation was carried to the centres through these tubules. In this case then we may suppose that the left supra-trochlear nerve sent a sensory fibre across the middle line to join the right supra-trochlear, and that the tactile sensibility of that minute spot depended upon impressions conveyed to the brain through the nerves of the right side.

The phenomena of hemi-anæsthesia do not negative this hypothesis, but they do prevent our resorting for an explanation to the *(a)* form of double nerve supply described above. If simple overlapping existed across the middle line some spots on the same side as the anæsthesia would retain their sensibility, and that is contrary to clinical observation.

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* *Arch. de Phys. normale et pathologique,* 1869, also 2me. Série, T. 3, p. 129. 1876.

CONGENITAL TUMOUR OF THE AXILLA.

BY BERTRAM C. A. WINDLE, M.A., M.D. DUBLIN,
PROFESSOR OF ANATOMY IN THE QUEEN'S COLLEGE, BIRMINGHAM.

I have to express my thanks to Mr. R. A. Newton for the very interesting specimen which forms the subject of this brief note. The fœtus was a female, aged apparently about eight months, and weighed with the tumour six pounds. From the region of the left shoulder there grew a tumour very much the size and shape of the child's head. It appeared to arise from the anterior aspect and point of the shoulder, the arm lying entirely behind it when the fœtus was placed on its back. The tumour, which was nearly globular, measured around its root, including the arm, 21·0 cm., and from its anterior to its posterior limit, 18·0 cm. It was somewhat fluctuating to the touch, giving the idea that there were harder parts at certain places.

On dissection, the tumour was everywhere covered with skin, which could however, without difficulty, be cleaned off from the tumour, which was then seen to lie in the axilla itself, having in front of it the pectoralis major, some of the fibres of which muscle, as well as of the deltoid, were reflected on to its surface. Further examination shewed that the tumour was entirely encapsulated and had no attachments save at the upper part of the axilla, where it was entered by blood vessels. At this point, when the tumour was removed, it was noticed that the entire of the clavicle was laid bare, from which it seemed probable that the tumour grew from, or at least was attached to, the sheath of that bone. The ribs of the left side, on which the tumour lay, were much flattened by pressure, but otherwise there was nothing to be remarked either in that or any other part of the fœtus. The weight of the tumour when removed was a trifle under a pound. It would have probably been fully a pound had not some blood escaped from it when the vessels were cut. On section, the tumour consisted of a loculated mass, the amount of solid substance being small in comparison with the cavities contained. These last were filled with clots of blood, a very large quantity of which was in the tumour, fully accounting for the anæmic condition of the rest of the body. A portion of the solid part was reserved for microscopic examination, and then shewed, within a thick, dense, fibrous capsule, a large number of small, round, embryonic cells, with some few of a spindle shape, leading to the conclusion that the tumour belonged to the group of congenital sarcomata.

Without entering into the question of congenital tumours at length, it may be stated that the chief forms existent, excluding those of a teratoid or dermoid nature, are lipomata, fibromata, angeiomata, and sarcomata. The most interesting group of the latter are those associated with the kidney. Of the comparatively small number of sarcomata of other regions which have been recorded, I know of none which occupied a similar site to that described above.

PERISCOPE.

THERAPEUTICS.

BY ROBERT SAUNDBY, M.D. EDIN., F.R.C.P. LOND.

Antipyrin in Diabetes Insipidus. — Opitz (*Deutsche Med. Wochenschr.*, Aug. 8th, 1889.)—Opitz has published three cases of diabetes insipidus treated by antipyrin; one of these was cured, in another the cure persisted after the drug was stopped, and in the third, while the urine rose when the drug was discontinued, it fell again to normal on its use being resumed.

Sleep in Chorea.—H. C. Bastian (*The Lancet*, July 13, 1889).—This was a case of chorea with violent movements treated by chloral and bromide, in doses sufficient to induce sleep, and given every four to eight hours as was needed. The patient was kept more or less continuously asleep from March 4th to April 29th. So far as the report goes no benefit appears to have followed the treatment, though ultimately the patient got well, as most cases of chorea do, in time. But the author says he has treated eight or nine cases in this way and some have been notably improved by it.

Eschcholtzia.—Messrs. Christy and Co. have introduced a fluid extract of Eschcholtzia as a substitute for preparations of opium. It is derived from the *Eschcholtzia Californica*, Nat. Ord. Papaveraceæ, habitat, Western America. According to Zacchariaus it is a feeble narcotic, ten grammes of the alcoholic extract being required to kill a rabbit. It contains a basic substance giving all the reactions of morphine and a glucoside.

Whooping Cough.—Naegeli *(Correspondenz Bl. für Schw. Aerzte).*—The plan recommended by Naegeli for cutting short the paroxysms of whooping cough is as follows:—Standing in front of the child, the nurse lays firm hold, with the index and middle finger, of the ascending ramus of the lower jaw in front of the ear, places both thumbs against the chin, and by strong but gentle traction and pressure moves the lower jaw forward and downward. If the mouth is a little open, the jaw may be fixed by placing the thumb or index finger along behind the anterior lower incisors and grasping the chin with the rest of the hand, performing traction as above. In all these cases the left hand rests on the forehead of the patient and performs counter-traction. If the nurse is behind the patient, she may place both thumbs close above the angle of the jaw, the index on the zygomatic arch, and the rest of the fingers on the chin, pushing forward and downward. Immediately the upper jaw is raised, the child must be told to draw a deep breath. The plan may be adopted even if the fit comes on during sleep; and Naegeli says that if so, the child does not wake.—*Lancet*, August 17th, 1889.

Richardson on Alcohol before Chloroformisation.—In the *Asclepiad*, August, 1889, p. 239, Dr. Richardson writes that he still adheres to an old suggestion of his, that it is good to administer a dose of alcohol by the mouth before proceeding to administer chloroform. In patients of strong and excitable temperament, a full dose of alcohol acts as a sedative, relaxing their arterial vessels, and thereby preventing the arterial tonicity and contraction which chloroform so commonly induces, and which leads to the tetanic stage of chloroform narcotism. Again, in patients with feeble heart, who are usually of nervous, hesitating mind, a previous dose of alcohol is of untold value in calming their fears and relieving the weak circulation, so that the chloroform acts rapidly and without producing toxic results. The author does not administer brandy or whisky or wine, but pure alcohol diluted with water. To an adult the dose may vary from four fluid drachms for an abstainer, to an ounce and a half for one accustomed to it as a daily beverage. The chloroform should not be given immediately the alcohol is swallowed, but it is necessary to wait until the first degree of alcoholic intoxication is produced—that is, until the vessels are injected with blood, the face is flushed, and the extremities are warm. The same rules apply to the administration of methylene bichloride and to all the anæsthetics in which chlorine forms a constituent part; for in the action of this series of chemical bodies it is the chlorine that gives the tetanic touch to the muscular fibre, voluntary and involuntary.

Perret and Devic on Antipyrin in the Treatment of Nocturnal Incontinence of Urine.—The first case in which it was tried was that of a child 4½ years of age, who was in the habit of passing water in bed several times during the night. Belladonna and the bromides were given without any improvement. From May 20th to 27th he was given twenty-two grains of antipyrin, half at 6 p.m. and the rest at 8. During this period of time the child did not wet the bed at all. The treatment was repeated off and on for some time, and ultimately proved completely successful. Another child 8 years of age, subject to the same infirmity, was given half a drachm of antipyrin, half at 6 p.m. and the rest at 9 p.m., and the incontinence ceased with the same promptness as in the other case.—*London Medical Recorder.*

Treatment of Pulmonary Tuberculosis with Guaiacol and Creasote.—Bourget (*Correspondenz-Blatt f. Schweitz. Aerzte*, 298, May 15th, 1889) says that of all the remedies recommended for the treatment of phthisis, beechwood creasote is the only one which retains its ascendency, although some pessimistic physicians still reject absolutely all treatment as useless. It is evident that not much is to be attained when creasote is given in doses of only two to three drops a day, but it is otherwise when larger amounts are administered. It is necessary to make the patient take the largest dose possible, without reference to what the Pharmacopœia says on the subject, only seeing that the digestive system is not seriously disturbed thereby.

Guttmann has shewn that tubercle bacilli will not grow in solutions of a strength of 1 : 2000 creasote, while cultures are but feeble in a concentration of 1 : 4000. To charge the blood in the proportion of 1 : 4000 would require the ingestion of 15 grains of the drug daily, an amount which this writer did not find it possible to give, though he administered 9 grains. Sommerbrodt has given 12 grains daily enclosed in capsules. This plan Bourget condemns on the ground that the drug thus administered will produce a very active circumscribed inflammation at the point where the capsule empties its contents. Pills of creasote made up with some resin, in the usual manner, are equally objectionable, since his experience confirms that of Goetz and Gilbert, that they very generally pass through the intestine undissolved.

For about three years he has used with very satisfactory results a method of internal and external treatment which he calls the "intensive method," and which consists in saturating the system with creasote without inconveniencing the patient. For the internal treatment he prefers guaiacol dissolved in wine or, in winter-time, in cod liver oil. The wine is given in tablespoonful doses, each of which contains about one grain of guaiacol. Little by little this is increased to 2-3 tablespoonfuls, until many patients are able to take 15 grains of guaiacol daily.

In cases in which there is a disgust for the wine or it disagrees with the stomach, the author administers the drug by enema, in the form of an emulsion. The two forms of administration can sometimes be alternated with advantage, giving the drug by the mouth for twenty-five days, and then by the rectum for an equal time.

At the same time the author employs externally a mixture of 20 parts of creasote and 200 parts of cod-liver oil. On retiring, the patient's chest, back, and axillæ are rubbed with this. During the night, and when possible during the day also, an inhaler is worn, in which a few drops of creasote are placed.

Gradually the patient is, in this way, saturated with creasote in an amount sufficient to interfere considerably with the evolution of the bacilli. To obtain success, the treatment must be continued without intermission for three to four months.—*Amer. Jour. of Med. Science.*

Strophanthus as a Local Anæsthetic.--Many of the drugs which are useful in the treatment of cardiac disease also possess a local anæsthetic action. There is, of course, no connection, as far as can be seen at present, between the two actions. The local anæsthetic action of erythrophleine was investigated last year by many observers; the conclusions arrived at were that, although it possessed a powerful local anæsthetic action, it caused irritation and dilatation of the vessels of the conjunctiva, and in some cases even severe inflammation. It was thus much inferior to cocaine, whose action is accompanied by a constriction of vessels and consequent pallor of the part. Helleborin, the glucoside from the Christmas rose, is also a local anæsthetic and cardiac tonic.

The local anæsthetic action of strophanthus is, therefore, chiefly of pharmacological interest, like that of erythrophleine. —*British Medical Journal*, June 22, 1889.—*Amer. Journ. of Med. Science.*

Experiments on the action of Syzygium Jambolanum in Artificial Diabetes.—C. Graeser (*The Lancet*, Nov. 2nd, 1889).—Dr. C. Graeser has found that when dogs had been made artificially diabetic by the administration of phloridzin in the proportion of 1 grm. per kilo. of body weight, the subsequent administration of extract of syzygium jambolanum invariably reduced the amount of sugar excreted, and also curtailed the period of excretion. The extracts were partly made from the whole fruit, partly from the rind or kernel, and concentrated so that 100 grms. of fruit were represented by 16⅓ grms. of the kernel and 11⅔ grms. of the rind extract. The dose was 6 to 18 grms. daily. It is still uncertain whether the active principle is in the rind or kernel—probably in both, but more in the former.

The results of three sets of observations may be thus summarized:—

	Grms.	Grms.	Grms.
Sugar excreted with phloridzin	12·5	... 10·0	... 10·5
Sugar excreted with phloridzin and jambul	2·1	... 1·0	... 1,5
Percentage reduction in sugar	80·8	... 84·0	... 85·7

These doses are much larger than those hitherto used in medicine. The powder has been usually given in doses of 5 to 10 grains. If a proportional dose is intended to be given to that used in these dogs, it would have to be from a quarter of a pound to a pound of the extract daily—rather an inconvenient dose!

CEREBRAL AND SPINAL SURGERY.

BY JORDAN LLOYD, F.R.C.S..
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Intracranial Inflammations starting in the Temporal Bone, their complications and treatment.—Ill. Med. News, July 6, 13, 20, 27, and August 3.—Mr. A. J. Barker took the above subject as the text for a course of "Hunterian" lectures delivered at the Royal College of Surgeons in June. The lectures should be carefully read and studied by every practitioner of medicine. Our space will not allow us to quote as fully as we should wish or as the importance of the subject demands. We shall have to be content therefore with abstracting only a few of the points of

Mr. Barker's lectures The Registrar-General's reports prove clearly that more than 400 persons die annually from "otorrhœa" or its complications. Disease is most common in the *middle* ear, and in 29 per cent. is of a suppurative character. Extension into the cranium is due to germ infection. Adults over fifteen are twice as often affected as children. The various complications are pyæmia, phlebitis of the lateral sinus, thrombosis, subdural abscesses, meningitis, cerebral and cerebellar abscess; meningitis and pyæmia most common, cerebellar and cerebral abscesses being only about one-fourth as frequent. Differential diagnosis is by no means certain, and can only approximately be arrived at by careful consideration of (1) temperature, (2) pulse, (3) bowels, (4) vomiting, (5) cerebration, (6) emaciation. Pupil changes are, in the present state of our knowledge, absolutely unreliable. Localisation symptoms are of course of the greatest possible value. With regard to treatment, prophylaxis, by early attention to every case of "otorrhœa," stands in the forefront; for without an antecedent otorrhœa the above list of maladies would rarely be seen. When intracranial inflammation has developed, surgical treatment must first be directed towards cleansing the middle ear; this can best be done through an opening into the mastoid antrum made half an inch behind and half an inch above the level of the centre of the external auditory meatus, by extension of this same opening subdural collections either in the petro-squamosal, or in the mastoidal areas may be reached. Meningeal collections must be sought for according to the locality suggested by the symptoms. Cerebral abscesses are usually in the temporo-sphenoidal lobe, and must be trephined at a point 1¼ inches behind the auditory meatus and the same distance above the level of Reid's base line. Cerebellar abscesses usually form in the anterior part of the lateral cerebellar lobes, and must be sought at a point 1½ in. behind and 1 in. below the base line. In cases of doubt, exploration is recommended. About twelve successful operations for cerebral abscess have already been recorded; and only a few weeks since Macewen operated successfully on an abscess of the cerebellum. Barker has recorded the first successful operation for localised meningitis.

On Drainage in the Treatment of certain Injuries and Diseases involving the floor of the Cranium.—Dr. Allis, of Philadelphia, relates the case of a man (*Annals of Surgery*, July, 1889) aged 21 years, who had fallen from a height and received a compound comminuted depressed fracture of the right frontal bone, with laceration of the brain. Immediate removal of the fragments was practised and an opening made through the cribriform plate of the ethmoid bone into the nasal cavity, through which two rubber tubes were carried for drainage. These were removed by the twelfth day and the patient made a perfect recovery. Remarks are appended with reference to similar drainage being arranged for through the base of the skull in other situations.

Trephining for Brain Tumour—The following case is reported by Fischer (*Wien. Medizin. Presse*, No. 25, 1889).—Patient, æt. 37, suffered in 1887 from an epileptic attack with subsequent mono-brachial paresis and disturbance of sensibility, aphasia and sluggishness of left pupil. Patient was trephined but nothing was found; temporary improvement followed in all the symptoms. Five months later he was again trephined, and a round-cell sarcoma found and shelled out of the ascending frontal convolution; the cavity was tamponed with iodoform. Rapid healing took place, but two months later symptoms of cephalalgia and paresis returned and the patient died comatose.

Operative Cure of a case of Brain Abscess.—Dr. G. von Donhoff, of Athens, Georgia, reports the following (*Annals of Surgery*, Aug., 1889).—Male, 35 years, came under his care in May, 1888. Two years before was struck on head by a musket in a drunken encounter. Saw a doctor next day and his injury regarded as trivial, treatment being more particularly directed to fractures of a rib and sternum. Subsequently he had maintained fair health, but on the whole had deteriorated, becoming unable to work, or rest comfortably, and having occasional fits of "fainting spells." Examination shewed right fistulous openings on and about the left parietal eminence and zygoma. The underlying entire left parietal and squamous portion of the temporal bones were bare. A free incision was made through the boggy scalp, and a ragged hole discovered in the bone a little above the root of the zygoma. Fifteen square inches of bone were cut away with a dental engine, and at the point corresponding to the hole in the zygoma a spiculum of bone 1½ inches long was drawn out of the brain substance. It had there formed an abscess cavity containing one ounce of stinking pus. The dura was thickened and bathed with purulent fluid. The wound was flushed and dressed with tepid salt water, and the patient made a rapid and complete recovery. The case is interesting because of the entire absence of nerve symptoms other than that of "nervous depression."

Cerebral Abscess Successfully Treated by Trephining.—Dr. Wright *(N. Y. Med. Rec.*, Sept. 21st,) reports the case of a man, aged 41 years, who complained of numbness and weakness in the right hand coming on five weeks after self-inflicted contusions of the head. On examination, the right leg, arm, and face were paretic. He had paroxysmal pain over the left parietal bone and short periods of aphasia during the next two weeks. He then became stupid and ultimately comatose, with incontinence of fæces and urine; the pupils were contracted and irresponsive to light; pulse 48, and respiration slow and regular. In this condition he was trephined over the left fissure of Rolando. The dura was healthy and was reflected back; the brain surface was healthy, and was punctured with a hypodermic needle, pus being found at some distance from the surface, 10 drachms were liberated, cavity washed with plain water, drained, and flap stitched down. On following day patient pulled out the drainage tube, and the wound soon afterwards healed. At the time of reporting, the paresis was said to be "disappearing."

Case of Traumatic Cerebral Hæmorrhage.—Mr. C. T. Bond, Leicester *(Illust. Med. News*, Sept., 1889), reports the case of a child, aged 3 years, who was knocked down by a horse on March 10th. There was then no evidence of injury to the skull, with the exception of superficial abrasions over the left parieto-temporal region. On March 12th the child became pale and drowsy, and its temperature fell below normal. Next morning left arm and leg gradually paralysed, patient becoming unconscious, with stertorous breathing, pallor, and feeble, irregular pulse. Death appearing imminent, without chloroform the skull was trephined over left-arm centre. Brain was tense, bulging, but not pulsating. It was punctured with grooved needle in several directions with negative results. The dural and skin flaps were laid down and sutured. Three hours later he swallowed food and recognised his mother. A hernia cerebri formed at wound, with complete left hemiplegia — arm, leg, trunk, face, and tongue. The process of healing was slow, but on Oct. 6th the wound was solid; "the movements of hand and fingers" were not yet recovered. The diagnosis made at the time was—"Laceration of the right cerebral hemisphere, leading to hæmorrhage and later on to inflammatory effusion round the clot." The subsequent history of the patient is instructive and important. He remained well for three months; then the hernia began again to bulge and the hemiplegia returned. Four months later he had fits, and the temperature rose to 105°. The fits recurred every few minutes, and the child soon afterwards died. The *post mortem* shewed purulent basal meningitis and a large tough-walled abscess, occupying the greater part of the parietal lobe, and extending from the summit of the hemisphere above to the temporo-sphenoidal lobe below, and backwards to the occipital lobe. It is interesting to note in this case that the angular gyrus on the right side was destroyed without any loss of vision resulting.

The Surgery of the Spine.—Dr. J. W. White, of Philadelphia (*Annals of Surgery*, July, 1889), publishes an excellent paper on spinal surgery. To systematise the subject, he divides the cases which may require operative interference into three groups: 1, traumatisms; 2, caries; 3, neoplasms. Under each of these heads interesting historical accounts are given, with lists of cases and the summarised conclusions of most of the leading authorities who have written on the subject. Spinal surgery is of more ancient date than is usually imagined. It was suggested as far back as the days of Paulus Ægineta, and was certainly attempted in the early years of the last century. From a careful study, Dr. White concludes that, 1st, the objections urged against operative interference in spinal traumatisms were partly theoretical, and have been shewn to be unsupported by clinical facts. Results since the introduction of anæsthetics and antiseptics are distinctly encouraging, and justify surgical operation in certain cases of fracture or dislocation. 2nd. That the paralysis of Pott's disease is due in most instances to extra-medullary proliferation of connective tissue occupying the space between the dura and the anterior surface of the laminæ, and is therefore frequently removable by operation. 3rd. Every case of focal spinal lesion thought to depend on localised non-malignant tumour should be regarded as amenable to operative interference. 4th. The method of extension (suspension), as recently revived, is well worthy of preliminary trial in the first two classes, and in obscure cases thought to belong to the third class. 5th. Looked at in the light of patients' prospects in the event of non-interference, the surgery of the spine has a rapidly widening field, and deserves more serious and careful consideration at the hands of practical surgeons. Dr. White reports two operations performed by himself.

Successful Case of Spinal Resection.—Dawbarn (*N. Y. Med. Journal*, June 29) reports a case of spinal resection for fracture in which some improvement was noted after operation. The patient fell six months before and fractured his spine between the last dorsal and first lumbar vertebræ. Treatment by braces, massage, and electricity had no influence on the paraplegia. Operation was decided upon with the object of replacing the detached portion of the column. An H-shaped incision was made, the long arms running on either side of the middle line of the back. After section through the laminæ the latter could be raised from the cord with the flaps. The right eleventh lamina was crushed below the level of its fellows, and was so adherent to the theca that its removal was a difficult matter. The cord being freely exposed formed a distinct angle backwards. There had evidently been a fracture of the body of the 12th dorsal which had been thrown backward. To free the cord from any possible pressure the arches of the 10th, 11th, and 12th vertebræ were removed. The theca was not opened. Antiseptic dressings completed by a plaster of Paris jacket. Wound healed primarily. Ten weeks after the operation "marked improvement" is recorded It is regrettable that no later report of the case is at hand.

OTOLOGY.

BY CHRISTOPHER LEWIS, M.D.

Necrosis and Caries of the Temporal Bone Treated with Acids.—Dr. Ole Bull *(Archives of Otology)*.—The writer of this paper draws attention to the fact that this disease is not so rare as is generally supposed, and that it presents difficulties of diagnosis requiring continued observation of the case before the real nature of the disease is discovered. The most reliable symptom. namely, the grating felt under the probe, is available only when the affected part is accessible to the instrument, and even then, when necrosis and not caries is present, it cannot always be felt. Dr. Bull considers that the constant appearance of granulations in the same place after they have been thoroughly destroyed, is a symptom which surely indicates dead bone. The seat of the disease is generally the innermost and upper part of the bony meatus and the adjoining part of the roof of the tympanic cavity. The peculiar smell is suspicious, but not so constant that its absence can constitute negative proof of bone affection. The surest evidence is the persistency of the discharge in spite of treatment. The removal of the carious process is indicated by local treatment either by chemical or mechanical means. It is impossible to carry out operative measures without exposing the patient's life to great risk, and so theoretically it is safer to employ chemical means, namely, by acids, by which we can act upon the dead bone and make it soluble. Sulphurous acid, which has been lauded by some writers, had to be abandoned on account of the pain which the patients experienced after using it. Experiments were then tried with different acids to find out which of them in the shortest time would decalcify bone of a certain size. The acids used were hydrochloric, nitric, phosphoric, and sulphuric, of different strengths, viz., 1. 2, 3, and 4 per cent. It was found that hydrochloric of all the acids used is capable of decalcifying bone in the shortest time. The relative proportion of time, taking 1 to represent hydrochloric acid, is for nitric acid 2, phosphoric acid 7, sulphuric acid 50 to 60. Dr. Bull finds that muriatic acid is the best solvent for the earthy particles of bone; but all acids cause pain in the meatus, and other symptoms if applied too often or of too great strength. When the indication is to remove a sequestrum which, on account of its size, cannot be taken through the auditory canal, or to decalcify a bone so situated that we need not fear the consequences of pressure on its surroundings should it happen to swell, then the acid which does this in the shortest time is preferable. It is however doubtful if the same holds good when the dead bone is deeply situated in continuity with healthy bone. In such cases we have to take into consideration the swelling which invariably takes place when the process of decalcification begins, for such swelling may give rise to unpleasant complications It is advisable, then, in deep-seated necrosis first to try phosphoric acid or a weak solution of muriatic acid. The writer's experience is that the prognosis is good when the disease is limited to the meatus and adjoining part of the roof of the tympanic cavity, and the patient may be cured in from six to eleven weeks. The application requires care. Small pieces of cotton soaked in the acid are laid on the diseased bone, the polypoid growths or granulations having been previously destroyed by the galvano-cautery or chromic acid. A hole is then visible varying in size from a pin's head to that of a hemp seed. When to this hydrochloric acid had been applied several times, the hole was filled with a vascular mass, which is looked upon as cartilage proceeding from the bone bordering the dead or half-dead part. Final result, that a hole with smooth margins, and considerably larger than the original one, has formed in the region above the drum head.

Creolin in Aural Surgery.—Five to ten drops of creolin in half a litre of warm water has been used with success for syringing the ear in purulent otitis media by Eitelberg, Purjesz, and Lechswitz *(Archiv für Ohrenheilk.—Journal for Medical Sciences).* Stronger solutions cause temporary burning in the ear. Some of the same solution is used for instillation in the ear after syringing, the application being left in the ear for ten minutes. The weak solutions may be used in other acute and chronic inflammations of the middle ear for syringing and for washing out the drum cavity *per tubans*, whereupon the discharge soon ceases. Lechswitz considers that it is the strongest disinfectant and deodorising remedy for all offensive discharges of the ear cavity, diminishing the pathological secretion in otorrhœa, and is a powerful antiseptic. In cases of furunculosis in the ear creolin salve has been used (2 to 100 vaseline), but with less success than in eczema.

We have given creolin an extended trial, but do not consider it equal to a solution of perchloride of mercury either as a deodoriser or disinfectant for the ear, while it requires to be given with care in otitis media on account of the severe pain and discomfort which it causes, in some instances even when weaker solutions than advised above are given. Patients, too, with perforation of the membrane complain bitterly of the sickness which they suffer from after using the drug, and of the horrid taste left in the mouth, which interferes with their digestion. A few cases of discharge from the ear under our care have derived undoubted benefit from its use when other remedies had failed; and the drug is worthy of being tried in obstinate discharges from the ear, commencing with a weak solution and gradually increasing the strength.

Ear Disease in Diphtheria.—Dr. Orne Green *(Boston Med. and Surg. Journal)* classifies the important diseases met with in diphtheria under four groups: *Acute*—1, diphtheritic inflammation; 2, suppurative inflammation; *Chronic*—3, adhesive process in tympanum; 4, disease of muscles. The first is a true diphtheritic inflammation with true membrane in the tympanum, an extension through the Eustachian tube, and occasionally occurring in the meatus, the former giving us otitis media diphtheritica, the latter otitis externa diphtheritica. The second group is the ordinary purulent otitis media. The great characteristics of both varieties is the tendency to ulceration and destruction, with loss of large portions of the drum head of the ossicles and ulceration of bone. The two chronic forms are rather sequels of the diphtheria than accompaniments of the disease. In the adhesive variety the mucous membrane undergoes a sort of cicatricial contraction impairing the vibratory apparatus. In the last variety the various accommodative powers of the ear become affected, owing to the inflammation attacking the muscles of the pharynx and the intrinsic muscle of the tympanum, the subjective symptoms of which are fulness, pain in the ears or over the side of the head, throbbing, subjective noises and deafness. Objective symptoms will shew in 1, the false membrane covering the deeper parts. The drum membrane may be destroyed and the exposed tympanum and deep meatus covered by the false membrane. In 2, examination shews a dense redness along the manubrium and in the osseous meatus, which extends to the whole drum membrane, and which rapidly becomes almost purple. Rupture follows, with profuse otorrhœa; later, sloughing of the ossicles, caries, and mastoid inflammation may follow. The treatment advised is a free incision of the entire posterior half of the membrane, with antiseptic cleansing and drainage. Two symptoms are of grave importance—1st, loss of bone conduction, which points to serious disease of the labyrinth often resulting in total deafness; 2nd, symptoms pointing to the brain, which usually result in meningitis.

A Clinical Study of some Antiseptics in the Treatment of Otorrhœa.—Dr. Randolph, Baltimore *(Medical Record)*, points out how difficult it is to obtain an antiseptic condition of the middle ear, owing to the numerous spaces and pockets found in the middle ear where discharge can become lodged and engender organism. "On the posterior wall there is the opening into the antrum mastoideum, or horizontal portion of the mastoid process; from thence we pass into the mastoid process itself, where are located the mastoid cells; here we have an array of pockets, chambers, recesses, in which micro-organisms can secure lodgment." The antiseptics which Dr. Randolph used were carbolic acid, iodoform, boracic acid, and an acid sublimate solution; and his experience extends over fifteen months' treatment. His results with carbolic acid have not been satisfactory unless with solutions of 5 per cent., a strength which, according to Koch, is needed to destroy the anthrax bacillus. The objection to using carbolic acid in otorrhœa is not however on the ground of its inferior antiseptic powers, but its irritating properties form the objection to its employment.

We cannot agree with the writer in discarding carbolic acid on the ground that it irritates the ear. A 10% solution in glycerine is constantly ordered by us without producing any ill effects; nor have we seen more irritation produced by carbolic acid than by any other remedy applied to the ear. The extreme sensitiveness of the meatus of some patients is such that we have known a solution of borax to produce pain and irritation, while others will apply lin. camph. co. (not on our advice) without a murmur or apparent irritation. Iodoform has not had an extended trial, for the odour is so objectionable that private patients will not tolerate it. In those cases however where the drug has been tried, the patients have been benefited.

Iodoform is no doubt a valuable drug in otorrhœa; and where cases improve under its use, the addition of equal parts of coffee will, according to our experience, do away largely with the objection to its use on account of the odour.

Boracic acid in powder is objected to owing to its having been attended by unfortunate consequences in many recorded instances, and quotes Schwartze, Stacke, Greiming in support of this—that boracic acid should not be used when the perforation is small and the secretion very abundant, and so the saturated solution of the acid is preferred for general use. There are no doubt authentic cases on record where the indiscriminate use of boracic powder has led to grave mastoid disease and even brain symptoms. Dr. Randolph has however obtained the best results by a bichloride of mercury solution, varying in strength from 1 to 3,000 to 1 to 8,000 and 10,000; but he adds a little tartaric acid to the solution, to prevent the albuminate of mercury being precipitated according to the laboratory experiments of Dr. Laplan. The prescription used is:—

℞ Hydrarg. perchlor. ... ... gr. ss.
Acid. tartar. ... ... gr. xx.
Aqua, q.s., ad.... ... ... ℥ v.

The ear is first to be syringed with warm water, and the sublimate solution is then poured into the ear and allowed to remain for ten or fifteen minutes, the meatus being then closed by a piece of cotton wool moistened with the fluid. Most satisfying results have been given in the cases of otorrhœa treated by the author after this method. Equally satisfactory results may be obtained we think by the bichloride alone.

Parotid Tumours due to Inflammation of the Tympanum.—Dr. Greene (*Boston Med. and Sur. Journal).*—Case 1. A tumour in front of the auricle—firm, oval, freely movable, and about the size of a filbert—appeared soon after acute pain in the ear, followed by facial paralysis. An examination of the ear shewed a purulent inflammation, which subsided under treatment, and within five days of the cessation of the discharge, the tumour disappeared. Case 2. The tumour was situated about a quarter of an inch in front of the tragus; was firm, oval, movable, and the size of an almond. There was a profuse and offensive chronic suppuration of the tympanum of several years' duration. This was treated, and within two weeks, as the discharge diminished, the tumour disappeared. Case 3. Tumour, the size of a hazel nut, appeared in the same spot as in the above cases, and had the same characteristics, viz., smooth, painless, insensitive, without redness or fluctuation. This had appeared simultaneously with pain and discharge from the ear; but the tumour did not disappear when the discharge had ceased. Dr. Greene thinks that in all these cases he had to deal with an enlarged lymph gland in direct connection with the tympanum, although anatomy has not demonstrated this connection.

REPORTS OF SOCIETIES.

British Medical Association.
Birmingham and Midland Counties Branch.

PATHOLOGICAL AND CLINICAL SECTION.

Friday, October 25th, 1889, Mr. Langley Browne, F.R.C.S.Ed., in the Chair.

Contracture of Hand.—Dr. T. Stacey Wilson shewed a patient, aged 21, suffering from contracture of her hand in the flexed position, which had persisted since an attack of hemiplegia in childhood, but in whom the contracture had been nearly removed and the muscular tone much improved by persistent rubbing and passive movement. Dr. Stacey Wilson believed that the paralysis, although originated by organic lesion, was now functional or hysterical in character, and could be overcome by appropriate means.

Œdema of Face.—Mr. Eales shewed a man, aged 45, suffering from considerable thickening of the whole skin of the face and nose, and whose appearance was much deformed by excessive œdema of the upper and lower eyelids, causing much swelling on each side, and which had resulted from repeated attacks of erysipelas during the last few years. There was no œdema elsewhere, and no signs of cardiac or of renal affection, or of myxœdema.

Thoracic Aneurism.—Dr. Suckling shewed an iron-worker, aged 33, who for eleven months had complained of severe pain shooting round the left side. He was admitted into the Queen's Hospital, and it was found that there was bulging on the left side of the spine, in the infra-scapular region (with pulsation), and a dull area, about six inches long and two inches wide, on the left side of the spine. A systolic *bruit* could be plainly heard over this area. The radial pulses and pupils were unaffected, and the aneurism was evidently below the root of the left lung. The man had suffered from syphilis, and had done heavy work. After six weeks' rest in bed and treatment with iodide of potassium, pulsation and pain had disappeared and the dull area had much diminished in size.

Tertiary Syphilis.—Mr. Haslam shewed a woman, aged 45, who sixteen years previously had contracted syphilis from washing dirty clothes. The initial lesion was in the thumb, and was accompanied by great inflammatory action and glandular enlargement in the axilla. The secondary stage was ill marked, there being only some sore throat and falling out of hair. There was no rash. The tertiary symptoms had been severe, ulcerations having occurred on the arm, leg, scalp, neck, tongue, and angle of mouth.

Cases.—The President shewed a case for diagnosis (?) Cardiac or Aneurismal.—Mr. Gilbert Barling shewed a patient with remarkable deformities after Acute Rheumatism.—Mr. Wynne Thomas shewed for Mr. Priestley Smith (1) Hydatid Cyst of Eyebrow; (2) Adeno-Sarcoma, simulating Microcele.

The Second General Meeting was held in the Medical Institute on Thursday, November 14th; the President, Mr. D. C. Lloyd-Owen, in the Chair.

A communication was received from the Council of the Association accepting the invitation to hold the Annual Meeting of 1890 in this City, and appointing Dr. Wade President-elect; also appointing an Arrangement Committee.

The following Members of the Association were duly elected Members of the Branch :—

Samuel Hollingsworth Agar, jun., B.A., M.R.C.S. and L.S.A., Henley-in-Arden; Thomas Ridley Bailey, M.D. Edin., Bilston; Henry Luther Ewens, M.D. Durh., the Children's Hospital; John Furneaux Jordan, M.B.R.U.I., Selly Park; Allan Edward Mahood, M.B. Durh., Queen's College; William Theophilus Ord, M.R.C.S., and L.R.C.P., Halesowen; Harry Beddoes Wetherell Plummer, M.B. Durh., West Bromwich; Charles Edwin Purslow, M D. Lond., 192, Broad Street; E. H. Strong, M.R.C.S., the Guest Hospital, Dudley; Alfred Joseph Reeve Tyler, M.R.C.S., King's Norton; Frank Faulder White, M.R.C.S., L.R.C.P., Coventry; James Martin Young, M.B., C.M. Aberd., the Eye Hospital.

The following circular was received from the General Secretary of the Association, and a Sub-Committee was appointed to consider and report upon Dr. Rentoul's proposals contained therein.

British Medical Association.
General Secretary's Office, 429, Strand, London, W.C.
October 25th, 1889.

Sir,—In accordance with the instructions of the Council of the 16th inst., "That Dr. Rentoul's resolution be forwarded to the Branches for consideration, and that a committee be appointed to receive and digest the replies and to report upon them to the Council," I forward to you herewith copies of resolutions passed at the first general meeting of members, held at the Coliseum, Leeds, on Tuesday, the 13th, and 16th August last, with a request that you will be good enough to place the same before your Branch, and to forward the views and suggestions of the members of your Branch at your earliest convenience.—I am, yours obediently,

FRANCIS FOWKE,
General Secretary British Medical Association.

Moved by Dr. Rentoul, seconded by Mr. Lawson Tait, and

Resolved: That the proposed resolutions of Dr. Rentoul be referred to the Council of the Association; that the Council invite the Branches and individual practitioners to forward suggestions to them; and that the Council furnish their report to the *Journal* within six months of the present date, and refer their conclusions to a general meeting.

PROPOSED RESOLUTIONS OF DR. RENTOUL.

Recognising the fact that there is an abuse of the out-patient department of our medical charities, this meeting of the British Medical Association resolves:—

1. That medical practitioners and the managers of our medical charities in the various towns and cities meet together and decide who are eligible for out-patient medical aid. This meeting suggests that the following "wage-limit" be adopted:—When a man and wife make 25s. per week and over, or a single person 20s. per week and over, that these shall be ineligible for out-patient treatment at the medical charities, except in cases of accident, and that those earning a similar rate of wage be ineligible for "home-visits;" that is, visits paid by the staff of the medical charities to sick persons at the patient's home. Further, that either the Manchester system of checking abuse or that used at the London and St. Bartholomew's Hospitals be put into force, but that preference be given to the plan used in Manchester.

2. In order that those who shall be excluded from the out-patient department of our medical charities (by the working of the previous resolution) may have the means of obtaining immediate and efficient medical, surgical, and dental treatment, and medicines, this meeting resolves that a Public Medical Service, such as that suggested in the *Journal* of June 22nd, 1889, be formed, and that this service embrace those wage-earners who are making under 45s. per week per family, and single persons under 30s. per week. And that the medical practitioners, dental surgeons, chemists, and hospital managers are requested to bring about this hospital reform, and establish a Public Medical Service with as little delay as possible.

3. That having secured hospital co-operation, and having established a Public Medical Service, the members of this Association appoint a committee, composed of two representatives elected by each Branch, and that this committee draw up a series of rules for the formation and working of a provident system, whereby wage-earners receiving up to 45s. per week per

family, and single persons 30s. per week, may, by making periodic payments during health and sickness, provide themselves, their wives, and children, with efficient medical and surgical treatment, and medicines.

4. That the principle of a "wage-limit" be adopted, and worked by friendly societies, tontines, and sick insurance companies; or that a "sliding scale" of payments be made to their medical practitioners, so that the present abuses may be rectified. This scale of payments to be drawn up by the committee constituted as by Resolution 3. This meeting suggests that the minimum medical fee paid by such sick clubs shall be 6s. per annum per member; that the person proposed for membership pay a fee of 3s. 6d. for the medical examination (whether admitted to membership or not) to the practitioner who so examines; that the sum of 1s. be paid for each certificate to the practitioner by the person who obtains it; and that the sum of 8d. be paid for each prescription dispensed. This meeting earnestly request the various authorities of friendly societies, tontines, and sick insurance companies to make provision for surgical and dental treatment, and to draw up a scale of fees for the same, so that they may not be depending on the medical charities for relief.

5. That this meeting, recognising the fact that there are a great number of beds in the Poor-law infirmaries (there being no less than 12,000 in 25 metropolitan Poor-law infirmaries), and many in the various fever hospitals at present unused for the clinical teaching of students, and giving due weight to the statement made in the Metropolitan Asylums Board Report of 1889, page 18, that "Your Committee cannot fail to observe the large proportion of mistakes which are made in the diagnosis of cases of small-pox and fever," desire to express their regret that the Poor-law infirmaries and fever hospitals are not open for the clinical instruction of medical students, and hope that the various authorities will direct their attention to the removal of the present restrictions, so that the educational standard may be improved, it being essential to the health of cities and towns that medical practitioners may be able to recognise fever cases at the earliest possible period.

6. That the Council and *Journal* of the Association help in every legitimate way to bring the above resolutions to a successful issue.

At a general meeting of members, held at the Mechanics' Institute, Leeds, on Friday, August 16th, 1889:

Management of Medical Charities—Dr. Rentoul, in bringing forward the motion of which he had given notice, said that he should not say anything in its support, but would simply read the resolution.

It was thereupon moved by Dr. Rentoul, seconded by Mr. Hart, and resolved unanimously—"That this general meeting of the British Medical Association views with great pleasure the action of the Charity Organisation Society of London in presenting a petition to the House of Lords praying for an inquiry into the management of the metropolitan medical charities, and earnestly hopes that the scope of the inquiry will be extended so as to include the provincial hospitals and dispensaries, and thereby obtain as complete information as is possible upon this important subject. That a copy of this resolution be forwarded to the Lord President of the Privy Council; that he be requested to receive a deputation thereon; and that the Council be requested to appoint a special committee to deal with this question, and to request the Charity Organisation Society of England to form a similar committee to act in conjunction with it."

For information regarding the resolutions see remarks in the *Journal* of June 22nd; July 6th, 13th, 20th, 27th; August 3rd, 10th, 17th, 24th, 31st; September 14th, 21st, 28th; and October 12th, 1889. See also "Statistics of 130 London Hospitals." *Journal*, February 2nd, 1889, and "Progress of Provident Dispensaries." January 18th, 1887.

MR. J. BRINDLEY JAMES'S MOTION.

That the British Medical Association shall give active support and assistance to any scheme that has in view the establishment of hospital co-operation with a view to the better conducting of the out-patient department of our general hospitals, raising thereby the standard of hospital practice and extinguishing the *raison d'être* of so-called provident dispensaries and open surgeries, thus enabling general practitioners to gain an honourable livelihood.

Mr. Wood-White shewed the following cases:—

Subconjunctival Dislocation of Lens, resulting from a blow on the eye seven months previously. The eye was quiet and vision good, and the patient only noticed the lump beneath the upper lid a few weeks before admission to the hospital. Ophthalmoscopically large masses of pigment could be seen at the seat of the sclerotic rupture.

A piece of steel in the vitreous chamber.—Seven days before applying to the Eye Hospital the patient was struck with great force on the left eye by a piece of steel which flew from his hammer. Examination shewed a small opacity near the outer part of the cornea, a corresponding perforation of the iris and lens, the latter being only opaque locally. The vitreous was perfectly clear, and the steel could be distinctly seen a little below and to the outer side of the disc, one edge touching the retina where there was an exudation, and the other edge free. The case was remarkable because of the slight disturbance that the injury had caused.

Dilatation of the Stomach.—Dr. Rickards read a paper entitled "Notes on Tubing the Stomach in Dilatation from Pyloric Obstruction."

Malignant Disease of Bladder.—Mr. Barling read a paper entitled "The Diagnosis of Malignant Disease of the Bladder; its Palliative and Radical Treatment," the discussion upon which was postponed till the next meeting.

Growth of Bladder.—Mr. Marsh shewed a specimen of growth of the bladder, which he had excised.

MIDLAND MEDICAL SOCIETY.

Annual meeting, Saturday, November 16th, 1889, LAWSON TAIT, F.R.C.S., President, in the chair.

A very large gathering of members and friends of the Midland Medical Society was held at the Grand Hotel to hear an address from Prof. W. T. Gairdner, M.D., Professor of Practice of Physic in the University of Glasgow, and Physician in Ordinary to the Queen in Scotland, on "Legislation for the Care and Treatment of Habitual Drunkards," which we hope shortly to publish in full.

Before the address there was a reception by the President and a conversazione, at which interesting experiments were shewn by Prof. Tilden on combustion, by Prof. Poynting on electrical transmission, and exhibits of anatomical models by Prof. Windle, drugs by Messrs. Southall, instruments and appliances by Messrs. Salt and Mr. Mappin, a calculating machine, etc.

After the address a discussion took place.

The President, in opening the discussion, said he thought that the difficulty in the way of further legislation was not a false idea of "the liberty of the subject" so much as a fear of new places being made for medical men.

Dr. Wade moved a vote of thanks to the lecturer, and it was seconded by the Rev. Dr. Gardiner, who said that he saw no remedy for confirmed drunkenness but that which had been suggested in the paper.

Dr. Norman Kerr said that a few years ago Judge Day ruled that, no matter what be the cause of the insanity, if a man be temporarily out of his mind, that man was irresponsible. (Applause.) Other decisions in a like spirit had lately been made. But he did not welcome them, because they lightened the punishment of the accused. Light punishment was not cure. They only strengthened, to his mind, the logical necessity for compulsory and rational treatment of drunkards. He did not believe there was any human drunkard irreclaimable. But the larger his experience grew, and the more he could find out of the history of cases, the fewer became the cases in which he did not trace a disease element in past stages. They were only at the beginning of this subject, and it was for them not to propound theories, but to accumulate facts.

Dr. Saundby thought there was no pathological tendency which made a man go and drink alcohol for the first time, and predicted great difficulty in framing an acceptable definition of the "habitual drunkard."

Dr. Grey, having conducted for thirteen years a home for the inebriates under the Habitual Drunkards' Acts, testified that he had had clergymen, medical men, lawyers, and people of all other ranks of society in his care, and that after twelve months' detention many of them were still, after seven or eight years, sober men. Some of these, for months after their entrance to the home, were unable to find a door in the house or to recollect for ten minutes what had been said or what they had said, and were nine or ten months in getting back to a complete state of health. He heard general complaints, however, especially in respect to female drunkards, that it was utterly impossible in their depraved condition to get them to sign a consent to enter the home; and most patients, when they did so, were under strong pressure from their friends.

The Rev. Canon Bowlby recalled Aristotle's distinction between actions committed by a man *ἄγνοον* (in a state of ignorance) and δι' *ἄγνοιὰν* (owing to ignorance). The difference lay between actions due to ignorance which a man had brought upon himself by lack of the opportunities of knowledge, and actions the consequences of which a man had had no opportunity of measuring. As to the state of the law, he agreed very closely with Dr. Norman Kerr. Every man who was through drunkenness likely to commit actions dangerous to society ought, for his own sake and for the sake of the community, to be subjected to compulsory detention. The difficulty of definition did not seem to him formidable, if the matter were left in the hands of thoroughly competent medical men. (Applause.)

Dr. Wade asked leave to add to his motion as follows:—"That this meeting is strongly in favour of fresh legislation in the direction of compulsory provisions for the detention and treatment of well-defined cases of habitual inebriety, in the interest of the individual and of the community at large."

With the consent of the seconder, the resolution as amended was carried unanimously.

In reply, Dr. Gairdner said he believed definition to be impossible. Where an habitual drunkard ends and an insane man begins no one, he thought, could tell. But the matter depended not on that, but on the practical ascertainment of whether a man was uncontrollable or not (Applause.)

The members and guests afterwards took supper together, the table being spread in honour of the lecturer.

QUEEN'S COLLEGE MEDICAL SOCIETY, BIRMINGHAM.

Annual Meeting, Wednesday, October 23rd, W. F. **HASLAM**, F.R.C.S., President, in the Chair.

The Annual Report shewed that the Society was in a satisfactory condition, that eleven papers had been read, and that many cases and specimens had been exhibited during the past Session. Ten new members were elected.

The following officers were elected for the ensuing Session:—President, Dr. T. Nelson; Vice-President, Mr. J. Hall-Edwards; Treasurer, Mr. J. H. Brice; Secretaries, Dr. Allan E. Mahood and Mr. J. Hugh Sproat. Council: Mr. W. F. Haslam, Mr. Augustus Clay, Prof. Windle, Dr. Purslow, Dr. Grinling, Dr.

Wm. Richards, Mr. F. W. Richards, Mr. J. Neal, Mr. Guy Dain, and Mr. Woolley.

Mr. Haslam read a Valedictory Address upon "Recent Advances in Surgery."

An Ordinary Meeting of the above Society was held on Wednesday, November 13, 1889, the President, Dr. T. NELSON in the Chair. Eight new members were elected.

Specimens.—Melanotic Sarcoma.—Mr. L. P. Gamgee exhibited for Dr. Saundby, an eye, liver, and lungs, extensively affected with melanotic sarcoma; also microscopic sections of the liver.

Hydatid Degeneration of the Chorion.—Dr. Mahood exhibited a Hydatid Mole weighing about a pound and a half; also a microscopic section shewing the structure of the cysts.

Congenital Tumour of Axilla—exhibited by Dr. Mahood for Prof. Windle. The tumour weighed a pound, and the microscopic section presented the appearance of the so-called "congenital sarcoma."

Dr. Purslow read a very interesting paper upon the "Use and Abuse of the Forceps in Midwifery Practice." The paper was illustrated by numerous specimens of forceps and was followed by an animated discussion.

REVIEWS.

THE ELECTRIC ILLUMINATION OF THE BLADDER AND URETHRA.*

THE appearance of a second edition within eighteen months of the first shews that Mr. Fenwick's book has obtained a deserved popularity, and that the profession have not been slow to grasp the advantages to be gained from examining the urinary passages with electric light.

The present volume is a very considerable expansion of the first, and we propose here to draw attention only to the additions. A chapter is devoted to the methods of making a permanent representation of what is seen in the interior of the bladder, so that the surgeon may have a guide as to the future extension of the disease. For this purpose photography is confessed at present to be a failure, and a substitute is recommended in a model of clay or wax. Photographs of several of these models are introduced in the text; but we fear that good commensurate to the labour expended on them is hardly to be expected. Another chapter describes the visual fallacies of electric cystoscopy in the healthy and in the diseased bladders. This demands careful reading at the hands of those without experience in this method of examining.

The value of the electric cystoscope as a diagnostic agent in renal and vesical hæmaturia, pyuria, foreign bodies, stones, etc., is dwelt upon at some length, almost every point being illustrated by citation of a case or cases; and it is to this excellent plan that much of the value of the present volume is due.

Mr. Fenwick points out the marked advantage that electric cystoscopy has over digital exploration for diagnostic purposes, and compares his results by the former with those of Sir H.

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* The Electric Illumination of the Bladder and Urethra. By E. Hurry Fenwick, F.R.C.S. Second edition. London: J. and A. Churchill.

Thompson by the latter. He expresses the curious opinion that the early use of the cystoscope will not tend to limit the size and number of vesical papillomata, and bases his belief on the grounds that these tumours do not obey a fixed law of development, and do not increase in size *pari passu* with the duration of symptoms. Further, that a tumour may be "latent" for a long time, and only give rise to symptoms when it has attained considerable dimensions. Speaking generally, we have little doubt that vesical growths, like all others, have a tendency to increase in size the longer they exist; and that if a surgeon finds a tumour when symptoms have only existed a few months, he will have less to remove than when symptoms have existed for a few years. It is owing to the want of precision in diagnosis, such as the cystoscope can give, that vesical tumours have not in the past been attacked early, but have been allowed to become of considerable size and to spoil the good results of operation by wearing out the patients with previous hæmorrhages, and by causing dilative changes in the upper urinary passages.

The chapters on the electric illumination of the urethra appear to be practically the same as those in the first volume.

A TEXT BOOK OF PHYSIOLOGY.*

We welcome with great pleasure the second volume of this truly admirable physiology. As in its predecessor, descriptions of the histology of organs go hand in hand with accounts of their function, and are illustrated by Stöhr's beautiful figures. Methods of preparation are placed separately in an appendix, but a reference number to the method used is affixed to the description of most of the figures. This is just as it should be. We have no hesitation in saying that we believe this work to be the text-book for medical students, and especially for those reading for University or other of the higher examinations. That the physiological worker will place it in his library goes without saying. We shall not attempt to criticise the book but conclude by giving the author's opinion about Dr. Norris' work on the blood, which will, we believe, be of interest to local readers. "After careful examination," he says, "of numerous photographs submitted to my inspection by Norris I am satisfied that the pale corpuscles cannot be accounted for by supposing that they are simply decolourised red corpuscles, or that they have assumed the appearances in the photograph by reason of the processes to which they have been subjected.' . . . "I think that Norris has demonstrated a corpuscle not usually seen, which is probably *a transitional corpuscle*, that is one which, in the evolution of the ordinary red blood corpuscle has not yet received its full complement of hæmoglobin." This recognition of Dr. Norris' work will gratify all admirers of his patient and long-continued labours.

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* A Text Book of Physiology. By J. G. McKendrick, M.D. Vol. ii., Special Physiology. Glasgow: James Maclehose and Sons. 1889.

A TEXT BOOK OF PHYSIOLOGY.*

The first edition of this text book was issued in 1876, and since that time four others and a reprint have succeeded it.

Here we might conclude, for the book of which this can be said requires at this period of its existence little note or comment. It may suffice to say that the present volume deals with the tissues of chemical action with their respective mechanisms. The well-known plan of former editions is still adhered to, histological descriptions and figures being excluded, save where absolutely necessary for explanatory purposes. That this is the best method for medical students is a question at least open to discussion; but that it has been eminently successful in Prof. Foster's hands is one which has long ago been settled in the affirmative.

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* A Text Book of Physiology. By M. Foster, M.A., M.D. Fifth edition. Part ii., comprising Book ii. London: Macmillan and Co. 1889.

A TEXT BOOK OF GENERAL THERAPEUTICS.*

THIS book has for its object the discussion of those modes of treatment which involve the use of agencies such as food, climate, water, etc., and does not, as might almost be expected from its title, enter at all into the general therapeutic principles underlying treatment by the exhibition of drugs. It also deals with a number of more or less well-defined recent additions to our means of combating disease to some of which indeed the term "general" might be thought scarcely applicable. Among these may be mentioned treatment by washing out the stomach, massage, the "Weir Mitchell Method," venesection, hypnotism, and suspension in diseases of the spinal cord.

We cannot expect to find very full accounts of such extensive and important subjects as treatment by climate and by diet, together with hydro- and electro-therapeutics, in the course of the 240 pages devoted to these methods; but the main points are dwelt upon, and the necessary information is summarised in a way that cannot fail to be useful both to students and practitioners. Thus, in the section on climatology we have a very serviceable list of the health resorts, their characteristics, and the indications for their use; while in the chapters on the various modes of treatment by water, the mineral springs and baths are similarly dealt with. The account of electricity as a medicinal agent is concise and clear.

When, however, we come to the parts of the book dealing with the less comprehensive and familiar subjects, we find much information that could not readily be gathered elsewhere; and the value of this and of other portions of the book is enhanced by the addition of a selected bibliography of the chief books and original articles upon the subjects discussed.

One of the chief features of this book is the very able and sensible account of hypnotism as a therapeutic agent. Of the 40 pages dealing with this subject more than half are devoted to the consideration of the hypnotic state and the methods of inducing it, while the remainder deal with the ways in which this agency can be employed for therapeutic purposes. We do not under-estimate the responsibility that rests upon the medical man who treats a patient by this means—a responsibility that extends to his every word and action, and possibly to his every thought as well, during the time that he has abrogated his patient's power of will and has placed her nervous mechanism, for the time being, completely within the sphere of his own volition. But there is evidence that this is a power by which patients can be and have been benefited; and the advantages and disadvantages of its use are fairly worthy of discussion. As Dr. Hale White points out, it is not likely that any very extended application will be found for it in this country, both on account of the insusceptibility of Englishmen to hypnotism and also from the infrequency of neuroses among patients of the lower classes.

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* A Text Book of General Therapeutics. By Hale White, M.D., F.R.C.P. London: Macmillan and Co. 1889.

THE PTOMAINES, LEUCOMAINES, AND EXTRACTIVES.*

In this paper the author advocates the possibility of the "filth-produced" class of diseases being caused by substances resulting from chemical changes rather than from bacterial agency. He says: "My experience has led me to doubt the universal applicability of the 'bacillus theory;' not that I am rash enough to deny that each disease may have a pathogenic bacillus present at some period of its course; but the question has so often occurred to me, in sporadic cases, Where has the bacillus come from?"

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* The Ptomaines, Leucomaines, and Extractives: Their Position as Possible Originators of Disease. By A. S. Underhill, M.D., etc., Medical Officer of Health for Tipton, Surgeon to the Guest Hospital, Dudley. London: W. H. and L. Collingridge.

He begins by reminding us how it has been shewn by Pasteur and others that in diseases which seem, with but little doubt, due to bacilli (*e.g.*, fowl cholera) the characteristic symptoms may be produced by the injection of cultivations from which all the microbes have been removed by filtration through porcelain: thus proving that the symptoms are caused by poisons formed by the bacilli rather than by the bacilli themselves.

After a short historical sketch of the progress of our knowledge of the group of animal alkaloids, he again reverts to this question and the probability of the alkaloidal nature of the poison by which microbes produce specific symptoms. He quotes Lander Brunton's conclusions (*vide* "Croonian Lectures," 1889) that "bacilli act by producing a reacting and active organic ferment—an enzyme—which may continue active after the bacillus is destroyed."

He then goes on to speak of the "filth-produced" class of disease, and says: "As a pure matter of speculation I should consider" that these "can be produced without the intervention of a microbe." By this we suppose the author means that these diseases—among which he classes ague, diarrhœa, cholera, typhoid fever, typhus fever, diphtheria (and epidemic sore throat) puerperal and acute septicæmia, and erysipelas—can be produced without the growth of microbes in the body; for he mentions, among the conditions which give rise to them, contact with decomposing animal matter, sewage-polluted drinking water, bad drainage, etc., conditions which owe their dangerous character almost entirely to the "intervention of microbes;" or, stated in other words, that he would consider these diseases may be due to the reception into the system of poisonous ptomaines, ferments, or allied substances, produced by the action of micro-organisms or other means, rather than to the growth in the body of any specific organism.

Of the "conclusions" with which the paper is summed up we may mention the following as being of most importance and most likely to meet with general assent:—"That the class of animal and vegetable alkaloids is an important factor in preventive medicine; that, however formed, it is their action, by ferment or otherwise, on the blood constituents which causes the specific symptoms of disease; that it is probably this chemically altered condition of the blood which gives a future immunity to the living being acted upon; that it is not possible at present to definitely explain the connection between pathogenic chemical substances and pathogenic bacilli."

The position taken up by Dr. Underhill in this paper is a strong one, for there is much evidence to shew how large a part is taken by animal alkaloidal substances in this direction; and, although his advocacy of the "chemical theory" is a good deal stronger than the facts of the case may warrant, it cannot fail to be of use by leading his hearers and readers to formulate their own ideas, if they have not already done so, on this important and comparatively new subject.

Local Notes.

Hospital Abuse.—A large and influential meeting was held at the Medical Institue on Nov. 20th to consider this question. Dr. Wade presided. The Report, drawn up by a small Committee previously in existence, and which related the principal facts bearing upon Hospital abuse, was accepted by the meeting as fairly representing the state of the case. A Committee was then appointed to continue the enquiry.

This Committee met on Nov. 27th, under the presidency of Dr. Wade and appointed a deputation to wait on the Mayor and request him to convene a conference of those interested in Hospital administration, of members of the Hospital Saturday Fund Committee, and of the medical profession, to consider the question of Hospital Reform, or else to take such other steps as he might think fit to the same end. Mr, Marsh is acting as Hon. Sec. to the Committee.

Queen's College.—A deputation from the Council met representatives of the Medical Faculty of the University of Durham on Nov. 19th to discuss with them the question of affiliation between the College and the University. It is sought to obtain admission of the students of the Birmingham School to the examinations of the University of Durham without residence elsewhere than in Birmingham, and we believe there is a fair prospect of this being realised.

The Council have decided to found an open entrance Scholarship of the value of 30 guineas. The examination will be in general English subjects, Classics, and Biology.

NEW INVENTIONS, DRUGS, ETC

Ext. Sennæ Legum. Liq.—In a recent number we referred to the paper by Dr. Macfarlane on the use of an infusion of senna pods as a laxative, in which it was stated that this preparation had neither the disagreeable taste nor the griping effects of preparations made from the leaves. In pursuance of this suggestion, Messrs. Arblaster and Churchill have prepared a fluid extract of senna pods, flavoured with liquorice and carminatives, which is admirably adapted for the purpose. The dose is one to three drachms. It is not at all disagreeable to the taste, and appears to be a trustworthy aperient; though it must be remembered that no drug is uniformly successful for this purpose, and sometimes one sometimes another answers best, so that a palatable addition is always a useful addition to the physician's pharmacopœia.

Pumiline Preparations.—The value of the terebinthinate class of remedies in the treatment of the diseases of mucous membranes is well understood; and among this class, of late years, none have been so popular as the products of the *pinus pumilio.* Messrs. G. and G. Stern have sent us samples of various preparations for the external and internal administration of pumiline oil. A specially pure preparation intended for internal administration is called pumiline essence. This may be administered in the form of jujubes or it may be used for inhalation in a steam inhaler. Mixed with olive oil, the essence forms a useful liniment. A cheaper extract is supplied for use in baths.

Miscellany.

MENTAL ARITHMETIC.—Doctor: "Not so well to-day, eh? Have you kept him quiet and given him his medicine regularly?" Mrs. Richard Bevylin Buckner: "Dey ain't been nobody in de room wid him 'cept me an' de children, so he's been nice an' quiet; an' I give him de med'cine like you tole me—three spoonfuls every hour." Doctor: "Great heavens, woman, it's a wonder he's alive! I said, 'One spoonful every three hours.'" Mrs. Buckner: "Well, now, Doctah, dey ain't no diff'rence between one three an' three ones. Count 'em fo' yo'self an' see."—*Harper's Bazaar*.

New Books, etc., Received.

An Introduction to Chemical Science. By R. P. WILLIAMS, A.M. Edited and revised by B. P. Lascelles, M.A., F.C.S. London: Guire and Co. 1889.

Hunterian Lectures on the Morbid Anatomy, Pathology, and Treatment of Hernia. By CHARLES BARRETT LOCKWOOD, F.R.C.S. London: H. K. Lewis. 1889.

Index Catalogue, vol. x. Surgeon-General's Department, Washington, U.S.A. 1889.

A Handbook of Surgical Pathology. Second edition. By W. J. WALSHAM, M.B., F.R.C.S. Eng., assisted by D'Arcy Power, M.A., M.B. Oxon., F.R.C.S. Eng. London: Baillière, Tindall, and Cox. 1890.

The Student's Surgery: A Multum in Parvo. By FREDERICK JAMES GANT, F.R.C.S. London: Baillière, Tindall, and Cox. 1890.

On the Animal Alkaloids. By Sir WILLIAM AITKEN, Knt., M.D., LL.D., F.R.S. Second edition. London: H. K. Lewis. 1889.

Report on the Health of the Borough of Birmingham for the Quarter ending Sept. 28th, 1889. By ALFRED HILL, M.D., F.I.C. Printed by order of the Health Committee.

Report on the Sanitary Condition of the Borough of Birkenhead. By FRANCIS VACHER. Birkenhead: Wilson and Jones. 1889.

The Treatment of Internal Derangements of the Knee Joint by Operation. By HERBERT WILLIAM ALLINGHAM, F.R.C.S. London: J. and A. Churchill. 1889.

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Surgery,
GILBERT BARLING, M.B., B.S. LOND., F.R.

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Vacher on Defects in Plumbing and Drainage Work . . ..
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